

CANADA MAYFLIES: A FAUNISTIC COMPENDIUM

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Abstract

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An account of 321 species of mayflies (Ephemeroptera) of Canada is provided and is based on the examination of previously unstudied material and on a comprehensive bibliographic review of initial records of all species (including synonyms and misidentifications) for each of the Canadian provinces and territories. Ninety-seven new provincial and territorial records of species are presented. *Apobaetis indeprensus* Day from Saskatchewan, *Plauditus cestus* (Provonsha and McCafferty) from Ontario, *Procloeon rivulare* (Traver) from Nova Scotia, *Procloeon viridoculare* (Berner) from Ontario, *Anepeorus simplex* (Walsh) from Ontario, and *Stenacron gildersleevei* (Traver) from Manitoba represent new, substantiated records for Canada. Checklists for each of the provinces and territories are given, and species included are annotated to indicate new records, endemism, type locality, and distribution outside of the province or territory and outside Canada. There are 102 species recorded for Alberta, 92 for British Columbia (two new records), 93 for Manitoba (two new records), 89 for New Brunswick (16 new records), 46 for Newfoundland Province (17 new records), 87 for Nova Scotia (14 new records), 52 for the Northwest Territories (one new record), 165 for Ontario (11 new records), 14 for Prince Edward Island (13 new records), 163 for Quebec (one new record), 82 for Saskatchewan (19 new records), and 28 for the Yukon Territory (one new record). Over 70% of the Canadian fauna was originally described from there. Only about 10% of the Canadian fauna is apparently endemic.

Résumé

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Un inventaire de 321 espèces d'Ephémères (Ephemeroptera) du Canada est présenté. Il est basé l'examen d'un matériel non étudié auparavant et sur une revue bibliographique d'ensemble des premières citations de toutes les espèces (y compris les synonymes et les erreurs d'identification) pour chacune des provinces et chacun des territoires canadiens. En outre, 97 citations nouvelles d'espèces, provinciales et/ou territoriales, sont présentées. Des citations nouvelles pour le Canada sont aussi établies : *Apobaetis indeprensus* Day au Saskatchewan, *Plauditus cestus* (Provonsha et McCafferty) en Ontario, *Procloeon rivulare* (Traver) en Nouvelle-Ecosse, *Procloeon viridoculare* (Berner) en Ontario, *Anepeorus simplex* (Walsh) en Ontario, et *Stenacron gildersleevei* (Traver) au Manitoba. Des listes sont dressées pour chaque province et territoire, dont les espèces sont annotée pour préciser : les citations nouvelles, l'endémisme, la localité-typique et la distribution à l'extérieur de la province ou de territoire ainsi qu'hors du Canada. En tout, 102 espèces sont répertoriées en Alberta, 92 en Colombie Britannique (dont deux citations nouvelles), 93 au Manitoba (deux citations nouvelles), 89 au Nouveau Brunswick (16 citations nouvelles), 46 sur

la province de Terre-Neuve (17 citations nouvelles), 87 en Nouvelle Ecosse (14 citations nouvelles), 52 sur les Territoires de Nord-Quest (une citation nouvelle), 165 en Ontario (11 citations nouvelles), 14 sur l'Île du Prince Edward (13 citations nouvelles), 163 au Québec (une citation nouvelle), 82 au Saskatchewan (19 citations nouvelles), et 28 sur le Territoire du Yukon (une citation nouvelle). Plus de 70% de la faune du Canada a été originellement décrite de ces régions. Seulement 10% environ de la faune canadienne est apparemment endémique.

Introduction

The mayfly fauna of Canada is relatively species rich (321 species accounted for herein) considering the severe and often limiting far northern climatic conditions with restricted growing seasons that are present in a large portion of the country. This species richness is even more impressive when considering that nearly all of Canada was glaciated as recently as 10,000 years ago, and most present distributions in Canada are attributable to dispersal events and recolonization since that time. Aquatic habitats are, however, abundant throughout the country, and there has been a rich heritage of aquatic scientists who have worked on the fauna from both taxonomic and ecological perspectives.

The first descriptions and earliest report of mayflies from Canada were by Say (1824), wherein he described *Ephoron album* from Manitoba and *Siphonurus alternatus* from the Northwest Territories (both originally as *Baetis*). Several other workers described species from Canada in the latter part of the 19th Century (Say 1839; Walker 1853; Hagen 1861; Provancher 1876, 1878; Eaton 1884–85). Sixteen of the species described from Canada in the nineteenth century remain valid today. Eight of those were described from Ontario, four from Quebec, two from Manitoba, one from Nova Scotia, and one from the Northwest Territories. There were, however, additional nineteenth century reports of another 16 species from Canada: two from Manitoba, seven from Ontario, eight from Quebec, two from Nova Scotia, two from Saskatchewan, and one from British Columbia (see Walker 1853; Hagen 1861, 1863; Eaton 1871, 1885; and Provancher 1876).

It was Walker (1853), in his study of specimens housed in the British Museum at that time, who made the earliest significant contribution to mayfly faunistics in Canada. Walker described 17 species from Canada. Two of those names proved to be homonyms and are known today as *Drunella walkeri* Eaton and *Rhithrogena jejuna* Eaton, eight were later synonymized, and the seven that remain valid are some of the best known species in North America: *Ephemerella invaria*, *Ephemerella simulans*, *Epeorus vitreus*, *Isonychia bicolor*, *Leptophlebia nebulosa*, *Paraleptophlebia debilis*, and *Siphonurina basale*.

A remarkable 72% of the valid species known from Canada were originally described from there, yet most of these species also occur in the United States. The immense descriptive contribution to North American ephemeropterology by the Canadian John McDunnough, primarily in the 1920s and 1930s, is undoubtedly the reason for this. McDunnough described 171 species from Canada in some 33 papers (see References). Of the McDunnough species described from Canada, 134 remain valid, although two have been renamed because they were secondary homonyms, and 37 have thus far proven to be junior synonyms. The Canadians W.A. Clemens and F.P. Ide each described four valid species from Canada in the twentieth century. The 14 other twentieth century workers who have authored or co-authored valid species from Canada have named even fewer.

The first substantial faunal list of the Canadian mayfly fauna per se was that of McDunnough (1925a), wherein 134 mostly valid species were recorded country wide. Although a somewhat modified and useful Canadian list (especially for updated provincial records) was given by Walley (1927), nothing on that scale for the entire country has been compiled since that time, and this has

been one of the primary motivations for the present study. There have been, however, considerable regional works in the twentieth century that have contributed significantly to the documentation of species distributions within Canada. Some notable recent examples include Scudder (1975) for British Columbia, Lehmkuhl (1976a) for Saskatchewan, Cobb and Flannagan (1980) and Harper and Harper (1981) for northern Canada, Flannagan and Flannagan (1982) for Manitoba, Larson and Colbo (1983) for Newfoundland, Petersen (1989) for New Brunswick and Nova Scotia, Dulude (1992) for Quebec, and Harper and Harper (1997) for the Yukon Territory.

The purpose of the present work has been to present a concise yet comprehensive inventory of all the species of Ephemeroptera in Canada. This includes a bibliographic account of the initial records of any species for any province or territory under any historical name attributable to the species, in addition to new records presented herein. It also includes a series of checklists for each province and territory, with numerous ancillary data annotated to the species. The study was in part instigated by numerous requests by users of Mayfly Central on the World Wide Web (<http://www.entm.purdue.edu/entomology/mayfly/mayfly.html>) for additional country data associated with the "Mayflies of North America" database.

Methods

Data presented here were compiled by 1) reviewing taxonomic literature wherein Canadian mayflies were described, 2) reviewing revisionary systematic literature dealing with genera that occur in Canada, 3) reviewing synoptic works on Ephemeroptera citing Canadian records, 4) reviewing regional faunal studies carried out in Canada, 5) reviewing limnological survey and macroinvertebrate ecology and toxicology studies carried out in Canada, 6) studying materials from Canada in the Purdue Entomological Research Collection, 7) soliciting new record data from colleagues who have recently made significant collections in Canada, and 8) accessing and identifying certain collections from Canada.

Record data are presented alphabetically by family, genus, and species. Author and year of publication of each species is given, but subspecies are not differentiated. For each species treatment the following is included: The provinces and territories in which it is known are given in bold abbreviation. For each province or territory noted for the species, the bases of that record are given in brackets, either as a bibliographic citation for the first record, or actual locale data for new records being presented. In a few instances, upgraded data serve as the basis of record data (for example, if data were assigned only to an unspecified species previously but can now be verified for a precise species). If the bibliographic data represent the original description of the species and the province or territory also encompasses the type locality of the species, "type" is indicated with the bibliographic citation. If the bibliographic data were given under a synonym or other form of the name, then that is also indicated. First records for all synonyms are given, and first records given under misidentifications are also indicated. New records include stage of mayfly, available locale information, date of collection, collector(s), and material location.

Province and territory abbreviations are as follows: **AB** = Alberta, **BC** = British Columbia, **MB** = Manitoba, **NB** = New Brunswick, **NF** = Newfoundland, **NS** = Nova Scotia, **NW** = Northwest Territories, **ON** = Ontario, **PE** = Prince Edward Island, **PQ** = Quebec, **SA** = Saskatchewan, and **YU** = Yukon Territory. Material locations cited are as follows: CSU = Colorado State University Entomological Collection, Fort Collins; PERC = Purdue Entomological Research Collection, Purdue University, West Lafayette, Indiana; RWG = R.W. Griffiths, private collection, Dutton, Ontario; SASK = University of Saskatchewan, Saskatoon, Saskatchewan.

The checklists include annotations by way of footnotes to species that indicate the following: newly reported provincial or territory records, newly reported Canada records, type localities,

endemism both with respect to province and territory or country, occurrence in other parts of Canada, occurrence in the Palearctic, occurrence in Alaska, and occurrence in the conterminous United States.

Record Data Summary

In keeping with our intention of providing data useful in prioritizing future research on the faunistics of the Canada Ephemeroptera, certain statistics that can be derived from our results are summarized here. Of the 321 species reported below, six represent new records for Canada: *Apobaetis indepressus* Day (Saskatchewan), *Plauditus cestus* (Provonsa and McCafferty) (Ontario), *Procloeon rivulare* (Traver) (Nova Scotia), *Procloeon viridoculare* (Berner), *Anepeorus simplex* (Walsh) (Ontario), and *Stenacron gildersleevei* (Traver) (Manitoba). Species numbers per province and territory are 102 for Alberta, 92 for British Columbia, 93 for Manitoba, 89 for New Brunswick, 46 for Newfoundland (27 for Newfoundland Island and 28 for Labrador), 87 for Nova Scotia, 52 for the Northwest Territories, 165 for Ontario, 14 for Prince Edward Island, 163 for Quebec, 82 for Saskatchewan, and 28 for the Yukon Territory. Ninety-seven new provincial and territorial records include two for British Columbia, two for Manitoba, 16 for New Brunswick, 17 for Newfoundland (and eight additional records for Labrador that were previously known from Newfoundland Island), 10 for Nova Scotia, one for the Northwest Territories, 11 for Ontario, one for Quebec, 19 for Saskatchewan, and one for the Yukon Territory.

Some 230 species were originally named from Canada. Of the 176 of these that remain valid, 54 were described from Quebec, 43 from Ontario, 40 from Alberta, 17 from British Columbia, nine from Manitoba, four from Nova Scotia, six from Saskatchewan, and three from the Northwest Territories. Thirty-one species are presently considered endemic to Canada. Four species are endemic to Alberta, two to British Columbia, three to Manitoba, one to the Northwest Territories, five to Ontario, four to Quebec, and one to Saskatchewan. Eleven Canadian species are also known from the Palearctic. Sixteen of the Canadian species are also known from Alaska, although the Alaskan fauna remains especially poorly known and undoubtedly more are shared than presently indicated. Some 282 species are shared by Canada and the conterminous United States.

Record Data

ACANTHAMETROPODIDAE

Analetris eximia Edmunds, 1972: **AB** [Barton (1980)]. **SA** [Lehmkuhl (1976b)].

AMELETIDAE

Ameletus bellulus Zloty, 1996: **AB** [Zloty (1996), type].

Ameletus browni McDunnough, 1933: **PQ** [McDunnough (1933c), type].

Ameletus celer McDunnough, 1934: **AB** [McDunnough (1934), type; McDunnough (1934) as *Ameletus alticolus* McDunnough, 1934, type]. **BC** [McDunnough (1934) as *Ameletus celeroides* McDunnough, 1934, type; McDunnough (1939) as *Ameletus tuberculatus* McDunnough, 1939, type; Scudder (1975)].

Ameletus cooki McDunnough, 1929: **AB** [Zloty (1996)]. **BC** [McDunnough (1935)].

Ameletus inopinatus Eaton, 1887: **NW** [Zloty (1996)].

Ameletus lineatus Traver, 1932: **PQ** [Dulude (1992)].

Ameletus ludens Needham, 1905: **ON** [Walley (1927)]. **PQ** [McDunnough (1925a)].

- Ameletus majusculus* Zloty, 1996: **AB** [Zloty (1996), type].
Ameletus oregonensis McDunnough, 1933: **AB** [Boerger and Clifford (1975)]. **BC** [Scudder (1975)].
SA [Zloty (1996)].
Ameletus pritchardi Zloty, 1996: **AB** [Zloty (1996), type]. **BC** [Zloty (1996)].
Ameletus shepherdii Traver, 1934: **BC** [McDunnough (1938) as *Ameletus querulus* McDunnough, 1938, type].
Ameletus similior McDunnough, 1928: **AB** [McDunnough (1928a), type]. **BC** [McDunnough (1935); Mayo (1952) as *Ameletus monta* Mayo, 1952, type].
Ameletus sparsatus McDunnough, 1931: **AB** [McDunnough (1931a), type]. **BC** [McDunnough (1935)]. **NW** [Wiens et al. (1975) as *Ameletus* prob. *sparsatus*].
Ameletus subnotatus Eaton, 1885: **AB** [McDunnough (1925a)]. **BC** [Zloty (1996)]. **MB** [Zloty (1996)]. **NB** [Zloty (1996)]. **NF** [Newfoundland Island, Zloty (1996)]. **ON** [Zloty (1996)]. **PQ** [Harper (1989)].
Ameletus suffusus McDunnough, 1936: **AB** [Zloty (1996)]. **BC** [McDunnough (1936b), type].
Ameletus tertius McDunnough, 1938: **NF** [Labrador: adult, stream entering Moosehead Lake, Hwy 500, E of Labrador City, 12 June 1997, B.C. Kondratieff and R.W. Baumann (CSU); adult, Miron River, Hwy 500, E of Ross Bay junction, 12 June 1997, B.C. Kondratieff and R.W. Baumann (CSU); adult, West Metchin River, Hwy 500, 32 mi E of Churchill Falls, 13 June 1997, B.C. Kondratieff and R.W. Baumann (CSU)]. **NS** [McDunnough (1938), type]. **PQ** [McDunnough (1932a) as *Ameletus* sp.; Dulude (1992)].
Ameletus validus McDunnough, 1923: **AB** [McDunnough (1923), type]. **BC** [McDunnough (1935)].
Ameletus vancouverensis McDunnough, 1933: **BC** [McDunnough (1933b), type].
Ameletus velox Dodds, 1923: **AB** [McDunnough (1925a)]. **BC** [Walley (1927); McDunnough (1936b) as *Ameletus connectus* McDunnough, 1936, type; McDunnough (1939) as *Ameletus connectinus* McDunnough, 1939, type].
Ameletus vernalis McDunnough, 1924: **AB** [Zloty (1996)]. **BC** [McDunnough (1924a), type].
Ameletus walleyi Harper, 1970: **ON** [Harper (1970), type].

AMETROPODIDAE

- Ametropus albrighti* Traver, 1935: **SA** [Lehmkuhl (1976a)].
Ametropus neavei McDunnough, 1928: **AB** [McDunnough (1928a), type]. **NW** [Cobb et al. (1995)].
SA [Allen and Edmunds (1976)].

ARTHROPLEIDAE

- Arthroplea bipunctata* (McDunnough), 1924: **NB** [Whiting (1992)]. **NS** [Petersen (1989)].
NW [Wiens et al. (1975) as *Arthroplea* sp.; Cobb and Flannagan (1980)]. **ON** [Walley (1927) as *Cinygma*]. **PQ** [McDunnough (1925a, 1925b) as *Cinygma*].

BAETIDAE

- Acentrella insignificans* (McDunnough), 1926: **AB** [Moriyama and McCafferty (1979) as *Baetis*]. **BC** [McDunnough (1926b) as *Baetis*, type]. **NW** [Moore (1977) as *Baetis* sp.]. **SA** [larvae, South Saskatchewan River, ferry E of Hague, 20 July, 8, 17 August 1972, D.H. Smith (SASK); South Saskatchewan R, ferry N of Birch Hills, 7 June, 24 August, 14 September 1972, D.H. Smith (SASK); South Saskatchewan River, Clarksboro Ferry, 29 May, 9 June 1972, D.H. Smith (SASK); South Saskatchewan River, ferry 4 mi E of Warren, D.H. Smith (SASK);

- South Saskatchewan River, Lemsford Ferry, 14 July 1971, D.M. Lehmkuhl; North Saskatchewan River, 10 mi E Prince Albert, Cecil Ferry, 1 June 1971, D.H. Lehmkuhl (SASK)]. **YU** [Harper and Harper (1997)].
- Acentrella lapponica* Bengtsson, 1912: **NF** [Labrador: Harper and Harper (1981) as *Baetis*]. **NW** [McDunnough (1936a) as *Baetis*]. **PQ** [Harper and Harper (1981) as *Baetis*].
- Acentrella turbida* (McDunnough), 1924: **AB** [McDunnough (1924a) as *Pseudocloeon*, type]. **BC** [McCafferty et al. (1994)]. **MB** [Flannagan et al. (1990) as *Pseudocloeon*]. **NB** [larvae, Miramichi River, 2 September 1950, 17 August 1950, E.L. Bousefield (PERC)]. **ON** [Walley (1927) as *Pseudocloeon carolina* (Banks), 1924]. **PQ** [McDunnough (1925b) as *Pseudocloeon carolina* (Banks), 1924]. **SA** [larvae, Meeyomoot River, at Hwy 165, 17 June 1971, D.H. Smith (SASK); South Saskatchewan River, 1 mi upstream from Saskatoon, 10 August 1970, D.M. Lehmkuhl (SASK); North Saskatchewan River, ferry 10 mi E of Prince Albert, 21 September 1972 (SASK)].
- Acerpenna akataleptos* (McDunnough), 1926: **AB** [McDunnough (1926a) as *Baetis*, type].
- Acerpenna macdunnoughi* (Ide), 1937: **NB** [Petersen (1989) as *Baetis*]. **NF** [Newfoundland Island: Larson and Colbo (1983) as *Baetis*. Labrador: larva, Miron River, Hwy 500, E of Ross Bay junction, 12 June 1997, B.C. Kondratieff and R.W. Baumann (CSU)]. **NS** [Petersen (1989) as *Baetis*]. **ON** [Flannagan and Cobb (1995)]. **PQ** [Ide (1937) as *Baetis*, type].
- Acerpenna pygmaea* (Hagen), 1861: **MB** [Friesen et al. (1980) as *Baetis*; Friesen et al. (1980) as *Baetis harti* McDunnough, 1924]. **NB** [Petersen (1989) as *Baetis*]. **NF** [Newfoundland Island: Larson and Colbo (1983) as *Baetis*]. **NS** [Petersen (1989) as *Baetis*]. **NW** [Cobb and Flannagan (1980) as *Baetis*]. **ON** [McDunnough (1925a) as *Baetis*]. **PQ** [Hagen (1861) as *Cloe*, type]. **SA** [adults, North Saskatchewan River, ferry 10 mi E of Prince Albert, 13, 14 July 1981, D.M. Lehmkuhl (SASK)].
- Apobaetis indeprensus* Day, 1955: **SA** [larvae, South Saskatchewan R, Ferry N of Lemsford, 10 August 1971, D.M. Lehmkuhl (SASK); adult, South Saskatchewan River, ferry N of Birch Hills, 7 June 1972, D.H. Smith (SASK)].
- Baetis bicaudatus* Dodds, 1923: **AB** [Moriyama and McCafferty (1979)]. **BC** [Walley (1927)]. **NW** [Moore (1977)]. **YU** [Cobb et al. (1995)].
- Baetis brunneicolor* McDunnough, 1925: **MB** [Moriyama and McCafferty (1979)]. **NB** [Eidt (1975)]. **NS** [Petersen (1989)]. **ON** [McDunnough (1925d), type]. **PE** [larvae, Prince Co., Miminegash River, Hwy 151, 19 June 1993, B.C. Kondratieff and R.W. Baumann (CSU)]. **PQ** [McDunnough (1932a)]. **SA** [larvae and adults, North Saskatchewan River, ferry 10 mi E of Prince Albert (SASK); adults, River 37 mi N of Green Lake, 10 July 1974, L. Dosdall (SASK)].
- Baetis bundyae* Lehmkuhl, 1973: **BC** [larvae, North Garnet Creek at old mine road, 7 km W of Endako, 15 June 1992, E. Whiting (PERC)]. **MB** [Harper and Harper (1981) as *Baetis macani bundyae*]. **NF** [Labrador: Harper and Harper (1981) as *Baetis macani bundyae*]. **NW** [Lehmkuhl (1973), type]. **PQ** [Harper and Harper (1981) as *Baetis macani bundyae*]. **YU** [Harper and Harper (1981) as *Baetis macani bundyae*; Harper and Harper (1997)].
- Baetis flavistriga* McDunnough, 1921: **MB** [Moriyama and McCafferty (1979)]. **NB** [Eidt (1975) as *Baetis levitans* McDunnough, 1925; Petersen (1989)]. **NF** [Newfoundland Island: Larson and Colbo (1983)]. **NS** [Petersen (1989)]. **NW** [Cobb and Flannagan (1980)]. **ON** [McDunnough (1921), type; McDunnough (1923) as *Baetis nanus* McDunnough, 1923, type; McDunnough (1923) as *Baetis phoebus* McDunnough, 1923, type; Walley (1927) as *Baetis cingulatus* McDunnough, 1925; Walley (1927) as *Baetis levitans* McDunnough, 1925; Walley (1927) as

- Baetis pallidula* McDunnough, 1924; Griffiths (1996)]. **PE** [larvae, Prince Co., Miminegash River, Hwy 151, 19 June 1993, B.C. Kondratieff and R.W. Baumann (CSU)]. **PQ** [McDunnough (1925a, 1925b); McDunnough (1925a) as *Baetis phoebus* McDunnough, 1923; McDunnough (1925b) as *Baetis cingulatus* McDunnough, 1925, type; McDunnough (1925b) as *Baetis levitans* McDunnough, 1925, type]. **SA** [adults, North Saskatchewan River, ferry 10 mi E of Prince albert, 24 August 1971, D.H. Smith (SASK); Crean River at Hwy 2, 4 June 1974, D.M. Lehmkuhl (SASK)].
- Baetis foemina* McDunnough, 1936: **NW** [McDunnough (1936a), type].
- Baetis hudsonicus* Ide, 1937: **MB** [Ide (1937), type]. **ON** [larvae, Kenora, trib. Breakneck Creek, 26 June 1990, W.B. Morton (PERC)]. **SA** [larvae, Saskatchewan River at mile 2 of Hwy 165, 17 June 1971, D.H. Smith (SASK)].
- Baetis intercalaris* McDunnough, 1921: **MB** [McDunnough (1925a)]. **NB** [Moriyara and McCafferty (1979)]. **NS** [Petersen (1989)]. **ON** [McDunnough (1921), type]. **PQ** [McDunnough (1925a)].
- Baetis moffatti* Dodds, 1923: **AB** [McDunnough (1925a)]. **BC** [Walley (1927)].
- Baetis parallelus* Banks, 1924: **AB** [Walley (1927)]. **BC** [Walley (1927)].
- Baetis persecutor* McDunnough, 1939: **AB** [Hamilton and Clifford (1983)]. **BC** [McDunnough (1939), type].
- Baetis pluto* McDunnough, 1925: **MB** [Flannagan et al. (1990)]. **NB** [Eidt (1975)]. **NS** [Petersen (1989)]. **ON** [Walley (1927)]. **PQ** [McDunnough (1925b), type; McDunnough (1925b) misidentified in part as *Baetis rusticans* McDunnough, 1925].
- Baetis rusticans* McDunnough, 1925: **NB** [Eidt (1975)]. **ON** [Walley (1927)]. **PQ** [McDunnough (1925b), type].
- Baetis tricaudatus* Dodds, 1923: **AB** [McDunnough (1925a) as *Baetis intermedius* Dodds, 1923; Clifford (1969)]. **BC** [McDunnough (1925a); Walley (1927) as *Baetis intermedius* Dodds, 1923; McDunnough (1938) as *Baetis jesmondensis* McDunnough, 1938, type]. **MB** [Ide (1937) as *Baetis vagans* McDunnough, 1925; Moriyara and McCafferty (1979)]. **NB** [Eidt (1975) as *Baetis vagans* McDunnough, 1925; Petersen (1989)]. **NF** [Newfoundland Island: Larson and Colbo (1983); Labrador: larvae, Raft River, Hwy 500, 34 mi N of Churchhill Falls, 12 June 1997, B.C. Kondratieff and R.W. Baumann (CSU); larvae, Trout Brook, Hwy 510, Pinware, 6 June 1998, B.C. Kondratieff and R.W. Baumann (CSU)]. **NS** [Moriyara and McCafferty (1979)]. **NW** [Wiens et al. (1975) as *Baetis* prob. *vagans* McDunnough, 1925]. **ON** [Walley (1927) as *Baetis incertans* McDunnough, 1925; Walley (1927) as *Baetis vagans* McDunnough, 1925; Moriyara and McCafferty (1979)]. **PE** [larvae and adults, Prince Co., Tignish River, Hwy 158, 19 June 1993, B.C. Kondratieff and R.W. Baumann (CSU)]. **PQ** [McDunnough (1925b) as *Baetis incertans* McDunnough, 1925, type; McDunnough (1925b) as *Baetis vagans* McDunnough, 1925, type; Moriyara and McCafferty (1979)]. **SA** [Lehmkuhl (1976a) as *Baetis vagans* McDunnough, 1925; Dosdall and Lehmkuhl (1989a, 1989b)]. **YU** [Cobb et al. (1995)].
- Callibaetis ferrugineus* (Walsh), 1862: **AB** [McDunnough (1925a) as *Callibaetis tessellatus* (Hagen), 1861; Walley (1927) as *Callibaetis americanus* Banks, 1900; Neave (1929) as *Callibaetis coloradensis* Banks, 1900]. **BC** [Eaton (1885); McDunnough (1925a) as *Callibaetis coloradensis* Banks, 1900; McDunnough (1925a) as *Callibaetis tessellatus* (Hagen), 1861; Walley (1927) as *Callibaetis hageni* Eaton, 1885; Filmer (1964) as *Callibaetis carolus* Traver, 1935; Filmer (1964) as *Callibaetis nigrinus* Banks, 1918]. **MB** [Banks (1912); McDunnough (1925a) as *Callibaetis americanus* Banks, 1900]. **NB** [McDunnough (1925a) as *Callibaetis coloradensis* Banks, 1900]. **NF** [Newfoundland Island: Check (1982)]. **NS** [Check (1982)]. **NW** [Cobb et al. (1995) as *Callibaetis coloradensis* Banks, 1900]. **ON** [Hagen (1861) misidentified as *Cloe bioculata* [sic] (Linnaeus), 1758; Banks (1900) as *Callibaetis americanus*

- Banks, 1900, type; Clemens (1913)]. **PE** [adults, Queens Co., Rt. 1, Charlottetown, at light, 20 June 1993, B.C. Kondratieff and R.W. Baumann (CSU)]. **PQ** [McDunnough (1930) as *Callibaetis hageni* Eaton, 1885; Harper and Harper (1976)]. **SA** [adults, Sturgeon River at Hwy 240, 4 August 1969, D.M. Lehmkuhl (SASK); Rystrom's Pond, 4 km SE Saskatoon, 11 August 1986, Dale Parker (SASK); La Ronge, 9 August 1970, R.G. Holmberg (SASK); Twin Forks, 24 May 1974, R. Demaray (SASK)]. **YU** [Harper and Harper (1981) as *Callibaetis* prob. *coloradensis* Banks, 1900; Harper and Harper (1997)].
- Callibaetis fluctuans* (Walsh), 1862: **MB** [Hagen (1863) as *Cloe*]. **ON** [Walley (1927)]. **PQ** [Gibbs (1979)].
- Callibaetis pallidus* Banks, 1900: **AB** [Neave (1929)]. **MB** [Banks (1914) as *Callibaetis semicostatus* Banks, 1914, type; McDunnough (1925a)]. **NF** [Newfoundland Island: Berner (1959) as *Callibaetis* nr *skokianus* Needham, 1903]. **SA** [McDunnough (1925a)].
- Callibaetis pretiosus* Banks, 1924: **ON** [Thew (1959)].
- Callibaetis skokianus* Needham, 1903: **ON** [Ide (1930)]. **PQ** [Harper and Harper (1982)]. **SA** [Thew (1959) as *Callibaetis brevicostatus* Daggy, 1945].
- Camelobaetidius warreni* (Traver and Edmunds), 1968: **SA** [McCafferty and Klubertanz (1994)].
- Centroptilum album* McDunnough, 1926: **BC** [Scudder (1975)]. **MB** [Lowen and Flannagan (1991)]. **NB** [Lowen and Flannagan (1991)]. **ON** [McDunnough (1926a), type]. **PQ** [McDunnough (1926a)].
- Centroptilum bifurcatum* McDunnough, 1924: **AB** [McDunnough (1924a), type]. **BC** [Scudder (1975)]. **MB** [Lowen and Flannagan (1991)]. **ON** [larvae, Algoma Co., Lake Superior, Batchawana Bay, north shore, 8 August 1994, P. Hudson (PERC)]. **SA** [larvae and adults: South Saskatchewan River, Lemsford Ferry, 3, 26 September 1970, 28 August 1971, 29 June 1971, D.M. Lehmkuhl (SASK); South Saskatchewan River at Saskatoon, 10 August 1970, D.M. Lehmkuhl (SASK); North Saskatchewan River, ferry 10 mi E of Prince Albert, D.H. Smith, 21 September 1972 (SASK); adults, South Saskatchewan River, Saskatoon, .25 mi upstream of Queen Elizabeth Power Station, 27 June 1976, (SASK); North Saskatchewan River at Hwy 5 (Border Bridge), 18 June 1976, P.G. Mason (SASK)].
- Centroptilum conturbatum* McDunnough, 1929: **AB** [McDunnough (1929), type]. **BC** [Scudder (1975)]. **MB** [Flannagan et al. (1990)].
- Centroptilum minor* (McDunnough), 1926: **ON** [McDunnough (1926a) as *Cloeon*, type].
- Centroptilum semirufum* McDunnough, 1926: **ON** [Eaton (1871) misidentified as *Centroptilum luteolum* (Müller), 1776; McDunnough (1926a), type]. **PQ** [Dulude (1992)].
- Centroptilum triangulifer* (McDunnough), 1931: **ON** [McDunnough (1931a) as *Cloeon*, type]. **PQ** [McDunnough (1931a) as *Cloeon*].
- Centroptilum victoriae* McDunnough, 1938: **MB** [Lowen and Flannagan (1991)]. **NS** [McDunnough (1938), type]. **ON** [Lowen and Flannagan (1991)]. **SA** [larvae, North Saskatchewan R, Cecil Ferry 10 mi E Prince Albert, 11 June 1971, D.M. Lehmkuhl (SASK); adult, South Saskatchewan R, Lemsford Ferry, 12 July 1972, D.M. Lehmkuhl (SASK)].
- Diphetero hageni* (Eaton), 1885: **AB** [McDunnough (1925a, 1925b) as *Baetis parvus* Dodds, 1923; Morihiro and McCafferty (1979) as *Baetis*]. **BC** [Walley (1927) as *Baetis parvus* Dodds, 1923]. **MB** [Gyselman (1980) as *Baetis*]. **NB** [Eidt (1975) as *Baetis herodes* Burks, 1953]. **NS** [adult and larvae, Cochester Co., Bailey's Brook, Rt 256, W of Falls, 3 June 1998, B.C. Kondratieff and R.W. Baumann (CSU)]. **NW** [Cobb and Flannagan (1980) as *Baetis*]. **ON** [McDunnough (1925b) as *Baetis parvus* Dodds, 1923; Spence and Hynes (1971) as *Baetis*].

- herodes* Burks, 1953; Morihara and McCafferty (1979) as *Baetis*. **PQ** [Walley (1927) as *Baetis parvus* Dodds, 1923; Morihara and McCafferty (1979) as *Baetis*]. **SA** [larvae, Pine Creek at Hwy 69, 17 June 1971, D.H. Smith (SASK)].
- Fallceon quilleri* (Dodds), 1923: **MB** [Flannagan et al. (1990) as *Baetis*]. **SA** [Lehmkuhl (1976a) as *Baetis*].
- Heterocloeon curiosum* (McDunnough), 1923: **NB** [Petersen (1989)]. **ON** [McDunnough (1923) as *Centropilum*, type]. **PQ** [McDunnough (1925a)].
- Heterocloeon frivolum* (McDunnough), 1925: **ON** [McDunnough (1925d) as *Baetis*]. **PQ** [McDunnough (1925d) as *Baetis*, type].
- Labiobaetis dardanus* (McDunnough), 1923: **MB** [McDunnough (1923) as *Baetis*, type]. **ON** [McDunnough (1925a)]. **PQ** [McDunnough (1925a)]. **SA** [larvae, South Saskatchewan River, Lemsford Ferry, 21 June, 12 July 1971, D.M. Lehmkuhl, 25 June 1972, D.H. Smith (SASK); South Saskatchewan River, Saskatoon, .25 mi upstream from Queen Elizabeth Power Station, 23 July 1972, D.H. Smith (SASK); South Saskatchewan River, Clarksboro Ferry, 17 August 1972, D.H. Smith (SASK); South Saskatchewan River at Cecil Ferry, 11 June 1971, D.M. Lehmkuhl (SASK); South Saskatchewan River, 1 mi upstream from Saskatoon, 13 July 1971, D.M. Lehmkuhl (SASK); Saskatchewan River, Fronlid Ferry, 21 July 1971, D.H. Smith (SASK); North Saskatchewan River, at Hwy 5 (Borden Bridge), 31 July 1972, D.H. Smith (SASK); North Saskatchewan River, ferry S of Maymont, 6 June 1972, D.H. Smith (SASK); North Saskatchewan River, at Cecil Ferry, 11 June 1971, D.M. Lehmkuhl (SASK); North Saskatchewan River, 20 mi N of Lloydminster, 4 July 1970, D.M. Lehmkuhl (SASK); adults, Saskatchewan River SW of Nipawin, 2 August 1972, D.H. Smith (SASK)].
- Labiobaetis frondalis* (McDunnough), 1925: **NS** [Morihara and McCafferty (1979) as *Baetis*]. **ON** [Walley (1927) as *Baetis*]. **PQ** [McDunnough (1925d) as *Baetis*, type].
- Labiobaetis longipalpus* (Morihara and McCafferty), 1979: **ON** [Griffiths (1996)].
- Labiobaetis propinquus* (Walsh), 1863: **MB** [McDunnough (1925d) as *Baetis spinosus* McDunnough, 1925, type]. **NB** [larvae, Kent Co., South Fork Coal Branch River, Hwy 126, 12 June 1998, B.C. Kondratieff and R.W. Baumann (CSU)]. **NS** [Morihara and McCafferty (1979) as *Baetis*]. **ON** [Clemens (1913) as *Baetis*; Walley (1927) as *Baetis spinosus* McDunnough, 1925]. **PQ** [Walley (1927) as *Baetis spinosus* McDunnough, 1925; Harper and Harper (1981) as *Baetis*]. **SA** [adults, Sturgeon River at Hwy 240, 4 August 1969, D.M. Lehmkuhl (SASK); larvae, Little Red River Park, at Prince Albert, 17 June 1971, D.H. Smith (SASK); Saskatchewan River, ferry N of Fronlid, 29 July 1972, D.H. Smith (SASK)]. **YU** [Wiens et al. (1975) as *Baetis* cf. *propinquus*; Cobb and Flannagan (1980) as *Baetis*].
- Plauditus armillatus* McCafferty & Waltz, 1990: **AB** [McDunnough (1932b) as *Pseudocloeon parvulum* McDunnough, 1932]. **MB** [Flannagan and Flannagan (1982) as *Baetis parvulum* (McDunnough), 1932]. **ON** [McDunnough (1932b) as *Pseudocloeon parvulum* McDunnough, 1932, type of *P. armillatus*; Griffiths (1996) as *Baetis*]. **PQ** [McDunnough (1932b) as *Pseudocloeon parvulum* McDunnough, 1932]. **SA** [larvae and adults, South Saskatchewan River, ferry N of Birch Hills, 19 June 1974, D.H. Smith and L. Dodge (SASK)].
- Plauditus cestus* (Provonsha and McCafferty), 1982: **ON** [larvae, Nottawasaga River at Simcoe Side Road 10, 16 June 1997, R.W. Griffiths and C. Jones (PERC, RWG)].

- Plauditus cinctus* McCafferty and Waltz, 1990: **ON** [Sprules (1947) as *Pseudocloeon cingulatum* McDunnough, 1931; Griffiths (1996) as *Baetis*]. **PQ** [McDunnough (1931a) as *Pseudocloeon cingulatum* McDunnough, 1931, type of *P. cinctus*].
- Plauditus dubius* (Walsh), 1862: **AB** [McDunnough (1931a) as *Pseudocloeon*]. **MB** [McDunnough (1925a) as *Pseudocloeon*]. **ON** [McDunnough (1923) as *Cloeon chlorops* McDunnough, 1923, type; Ide (1937) as *Pseudocloeon dubium* (McDunnough)]. **PQ** [Walley (1927) as *Pseudocloeon chlorops* McDunnough, 1923]. **SA** [adults, South Saskatchewan River, ferry N of Birch Hills, 6 July 1972 (SASK)].
- Plauditus futilis* (McDunnough), 1931: **AB** [McDunnough (1931a) as *Pseudocloeon*, type].
- Plauditus punctiventris* (McDunnough), 1923: **MB** [Friesen et al. (1980) as *Pseudocloeon*; Gyselman (1980) as *Pseudocloeon myrsum* Burks, 1953]. **NB** [Petersen (1989) as *Pseudocloeon*]. **NS** [Petersen et al. (1987) as *Pseudocloeon*]. **ON** [McDunnough (1923) as *Cloeon*, type]. **PQ** [McDunnough (1925a) as *Pseudocloeon*]. **SA** [larvae, Battle River, S of Laburn, 27 August 1972, D.H. Smith (SASK)].
- Plauditus rubrolateralis* (McDunnough), 1931: **AB** [McDunnough (1931a) as *Pseudocloeon*, type].
- Plauditus virilis* (McDunnough), 1923: **ON** [McDunnough (1923) as *Cloeon*, type]. **PQ** [McDunnough (1924a) as *Pseudocloeon*]. **SA** [larvae, river 2 mi S Hudson Bay, Sask., 27 August 1969, D.M. Lehmkuhl (SASK)].
- Procloeon bellum* (McDunnough), 1924: **BC** [Filmer (1964) as *Centroptilum*]. **NB** [larvae, Charlo River, 2 August 1950, G.F. Edmunds (PERC)]. **NS** [Whiting (1992) misidentified as *Centroptilum venosum* Traver, 1935]. **ON** [Walley (1927) as *Centroptilum*]. **PQ** [McDunnough (1924a) as *Centroptilum*, type; Harper (1989) misidentified as *Centroptilum venosum* Traver, 1935].
- Procloeon caliginosum* (McDunnough), 1925: **PQ** [McDunnough (1925d) as *Centroptilum*, type].
- Procloeon convexum* (Ide), 1930: **MB** [Flannagan et al. (1990) as *Centroptilum*]. **NF** [Newfoundland Island: Larson and Colbo (1983) as *Centroptilum*]. **ON** [Ide (1930) as *Centroptilum*, type].
- Procloeon fragile* (McDunnough), 1923: **ON** [McDunnough (1923) as *Centroptilum*, type]. **PQ** [McDunnough (1925a) as *Centroptilum*].
- Procloeon implicatum* (McDunnough), 1924: **AB** [McDunnough (1923) misidentified in part as *Centroptilum ingens* McDunnough, 1923; McDunnough (1924a) as *Cloeon*, type]. **BC** [McDunnough (1924a) as *Cloeon*].
- Procloeon in anum* (McDunnough), 1924: **AB** [McDunnough (1924a) as *Cloeon*, type]. **MB** [Harper and Harper (1981) as *Cloeon*].
- Procloeon ingens* (McDunnough), 1923: **AB** [McDunnough (1923) as *Cloeon*, type]. **MB** [McDunnough (1925a) as *Cloeon*]. **PQ** [McDunnough (1930) as *Cloeon*]. **YU** [Harper and Harper (1997)].
- Procloeon insignificans* (McDunnough), 1925: **ON** [McDunnough (1925d) as *Cloeon*, type].
- Procloeon intermediale* (McDunnough), 1931: **PQ** [McDunnough (1931a) as *Centroptilum*, type].
- Procloeon irru brum* Lowen and Flannagan, 1992: **MB** [Lowen and Flannagan (1992), type].
- Procloeon mendax* (Walsh), 1862: **ON** [Ide (1930) as *Cloeon*].
- Procloeon ozburni* (McDunnough), 1924: **ON** [McDunnough (1925a)]. **PQ** [McDunnough (1924a) as *Centroptilum*, type].
- Procloeon pennulatum* (Eaton), 1870: **AB** [McDunnough (1931a) as *Centroptilum infrequens* McDunnough, 1924]. **MB** [McDunnough (1924a) as *Centroptilum infrequens* McDunnough, 1924, type]. **NB** [larvae, Mirimichi River, 2 September 1950, E.L. Bousefield (PERC)].

- NW** [Lowen and Flannagan (1990) as *Centroptilum infrequens* McDunnough, 1924; Cobb et al. (1995)]. **SA** [Lowen and Flannagan (1990) as *Centroptilum infrequens* McDunnough, 1924]. *Procloeon quaesitum* (McDunnough), 1931: **AB** [McDunnough (1931a) as *Centroptilum*, type]. **MB** [Neave (1934) as *Centroptilum*]. **SA** [larvae, Wallaston Lake, Stm. 64, 6 July 1972 (SASK)].
- Procloeon rivulare* (Traver), 1935: **NS** [larvae, Riv. Philp, 9 July 1950, G.F. Edmunds (PERC); larvae, Hilisburn Stream, Rapids, 24 June 1950, G.F. Edmunds (PERC)].
- Procloeon rubropictum* (McDunnough), 1923: **MB** [Friesen et al. (1980) as *Cloeon*]. **NB** [larvae, Mirimichi River, 17 August 1950, E.L. Bousefield (PERC)]. **NS** [Whiting (1992)]. **ON** [Clemens (1913) as *Cloeon dubium* (Walsh), 1862; McDunnough (1923) as *Cloeon*, type]. **PQ** [McDunnough (1925a) as *Cloeon*]. **SA** [larvae, Lac La Ronge, Nemeiben River, 22 July 1969, D.M. Lehmkuhl (SASK)].
- Procloeon rufostrigatum* (McDunnough), 1924: **MB** [McDunnough (1924a) as *Centroptilum*, type]. **NB** [Traver (1935a) as *Centroptilum*]. **NS** [Whiting (1992)]. **PQ** [Harper and Harper (1981) as *Centroptilum*].
- Procloeon simile* (McDunnough), 1924: **ON** [Traver (1935a) as *Centroptilum*]. **PQ** [McDunnough (1924a) as *Centroptilum*, type].
- Procloeon simplex* (McDunnough), 1925: **ON** [Walley (1927) as *Cloeon*]. **PQ** [McDunnough (1925d) as *Cloeon*, type].
- Procloeon viridoculare* (Berner), 1940: **ON** [larvae, Nottawasaga River at Simcoe Side Road 10, 16 June 1997, R.W. Griffiths (RWG)].
- Procloeon walshi* (McDunnough), 1929: **MB** [Flannagan et al. (1990) as *Centroptilum*].

BAETISCIDAE

- Baetisca callosa* Traver, 1931 nomen dubium: **PQ** [McDunnough (1932b)].
- Baetisca carolina* Traver, 1931: **PQ** [McDunnough (1932b)].
- Baetisca lacustris* McDunnough, 1932: **AB** [Lehmkuhl (1972) as *Baetisca bajkovi* Neave, 1934; Pescador and Berner (1981)]. **MB** [McDunnough (1932b); Neave (1934) as *Baetisca bajkovi* Neave, 1934, type]. **ON** [Banks (1912) as *Baetisca obesa* (Say), 1839; McDunnough (1932b), type]. **PQ** [Dulude (1992)]. **SA** [Lehmkuhl (1972) as *Baetisca bajkovi* Neave, 1934; Pescador and Berner (1981)].
- Baetisca laurentina* McDunnough, 1932: **AB** [Pescador and Berner (1981)]. **MB** [Pescador and Berner (1981)]. **NB** [McDunnough (1932b)]. **NF** [Labrador: larvae, Walsh River, SW of Labrador City, Hwy 530, 11 June 1997, B.C. Kondratieff and R.W. Baumann (CSU); larvae, Ashuanipi River, Hwy 500, W of Ross Bay junction, 12 June 1997, B.C. Kondratieff and R.W. Baumann (CSU); larva, Raft River, Hwy 500, 34 mi N of Churchill Falls, 12 June 1997, B.C. Kondratieff and R.W. Baumann (CSU)]. **NS** [Whiting (1992)]. **NW** [Pescador and Berner (1981)]. **ON** [McDunnough (1932b)]. **PQ** [McDunnough (1932b), type].
- Baetisca obesa* (Say), 1839: **AB** [Lehmkuhl (1972)]. **MB** [Burks (1953)]. **NW** [Wiens et al. (1975) as *Baetisca* sp.; Cobb and Flannagan (1980)]. **ON** [Barton and Hynes (1978) and possibly earlier by Rawson (1930)]. **SA** [Lehmkuhl (1972)].
- Baetisca rubescens* (Provancher), 1878: **NF** [Labrador: larvae, West Metchin River, Hwy 500, 32 mi E of Churchill Falls, 13 June 1997, B.C. Kondratieff and R.W. Baumann (CSU); larvae, Unknown River, Twin Falls rd, 21 mi W of Churchill Falls, 13 June 1997, B.C. Kondratieff and R.W. Baumann (CSU)]. **PQ** [Provancher (1876) misidentified as *Cloe unicolor* Hagen, 1861; Provancher (1878) as *Cloe*, type].

CAENIDAE

- Brachycercus flavus* Traver, 1935: **PQ** [Harper and Harper (1976); Dulude (1992) misidentified as *Brachycercus prudens* (McDunnough), 1931].
- Brachycercus lacustris* (Needham), 1918: **NS** [larva, Hants Co., Herbert River, Hwy 4, 20 June 1994, R. Raymond (CSU)]. **ON** [Ide (1930) as *Eurycaenis pallidus* Ide, 1930, type]. **PQ** [Lauzon and Harper (1988)].
- Brachycercus prudens* (McDunnough), 1931: **SA** [McDunnough (1931e) as *Eurycaenis*, type].
- Caenis amica* Hagen, 1861: **AB** [McDunnough (1931e) as *Caenis simulans* McDunnough, 1931; Provonsha (1990)]. **BC** [Traver (1935a) as *Caenis simulans* McDunnough, 1931; Provonsha (1990)]. **MB** [McDunnough (1931e) as *Caenis simulans* McDunnough, 1931]. **NB** [McDunnough (1931e) as *Caenis simulans* McDunnough, 1931]. **NF** [Newfoundland Island: Larson and Colbo (1983) as *Caenis simulans* McDunnough, 1931]. **ON** [McDunnough (1931e) as *Caenis simulans* McDunnough, 1931, type]. **PQ** [McDunnough (1931e) as *Caenis simulans* McDunnough, 1931; Provonsha (1990)]. **SA** [McDunnough (1931e) as *Caenis simulans* McDunnough, 1931; Provonsha (1990)].
- Caenis candida* Harper and Harper, 1981: **PQ** [Harper and Harper (1981), type].
- Caenis diminuta* Walker, 1853: **NS** [Provonsha (1990)]. **ON** [Banks (1912)]. **PQ** [McDunnough (1925a)].
- Caenis hilaris* (Say), 1839: **ON** [Walley (1927)].
- Caenis latipennis* Banks, 1907: **AB** [Provonsha (1990)]. **MB** [McDunnough (1931e) as *Caenis forcipata* McDunnough, 1931; Provonsha (1990)]. **NB** [McDunnough (1931e) as *Caenis jocosa* McDunnough, 1931; Provonsha (1990)]. **ON** [McDunnough (1931e); McDunnough (1931e) as *Caenis forcipata* McDunnough, 1931, type; McDunnough (1931e) as *Caenis jocosa* McDunnough, 1931]. **PQ** [McDunnough (1931e) as *Caenis forcipata* McDunnough, 1931; McDunnough (1931e) as *Caenis jocosa* McDunnough, 1931; Provonsha (1990)]. **SA** [McDunnough (1931e)].
- Caenis punctata* McDunnough, 1931: **ON** [McDunnough (1931e)]. **PQ** [McDunnough (1931e), type].
- Caenis tardata* McDunnough, 1931: **AB** [McDunnough (1931e), type]. **MB** [Friesen et al. (1980)]. **SA** [McDunnough (1931e)].
- Caenis youngi* Roemhild, 1984: **AB** [Provonsha (1990)]. **NW** [Cobb et al. (1995)]. **ON** [all larvae: Young-Davidson Pond #1, Matachewan, 28 May 1996, R.W. Griffiths and G. Watson (PERC, RWG); small lakes nr Falconbridge, October 1997, D. Zaranko (PERC)]. **SA** [Parker (1992)]. **YU** [Cobb et al. (1995)].

EPHEMERELLIDAE

- Attenella attenuata* (McDunnough), 1925: **NB** [Allen and Edmunds (1961b) as *Ephemerella*]. **NS** [Petersen (1989) as *Ephemerella*]. **ON** [McDunnough (1931c) as *Ephemerella*]. **PQ** [McDunnough (1925c) as *Ephemerella*, type].
- Attenella margarita* (Needham), 1927: **AB** [Walley (1930) as *Ephemerella*]. **BC** [Walley (1927) misidentified as *Ephemerella attenuata* McDunnough, 1925; larvae, Trout Creek at Summerland, 16 August 1964, G.F. Edmunds (PERC)]. **NB** [Allen and Edmunds (1961b)]. **NS** [Allen and Edmunds (1961b)].
- Caudatella heterocaudata* (McDunnough), 1929: **BC** [McDunnough (1935) as *Ephemerella*

- columbiella* McDunnough, 1935, type; Allen and Edmunds (1961a) as *Ephemerella*.
Caudatella hystrix (Traver), 1934: **BC** [McDunnough (1935) as *Ephemerella*].
Caudatella jacobi (McDunnough), 1939: **BC** [McDunnough (1939) as *Ephemerella*, type].
- Drunella coloradensis* (Dodds), 1923: **AB** [McDunnough (1929) as *Ephemerella*]. **BC** [Clemens et al. (1938) as *Ephemerella*; Mayo (1952) as *Ephemerella wilsoni* Mayo, 1952, type]. **NW** [Cobb et al. (1995)]. **YU** [Allen and Edmunds (1962b)].
- Drunella cornuta* (Morgan), 1911: **NB** [Petersen (1989) as *Ephemerella*]. **NF** [Newfoundland Island: Berner (1959) misidentified as *Ephemerella cornutella* McDunnough, 1931]. **NS** [Allen and Edmunds (1962b)]. **ON** [Ide (1930) as *Ephemerella depressa* Ide, 1930, type; Allen and Edmunds (1962b) as *Ephemerella*]. **PQ** [McDunnough (1931c) as *Ephemerella*].
- Drunella cornutella* (McDunnough), 1931: **NB** [McDunnough (1931c) as *Ephemerella*]. **NF** [Labrador: larvae, Miron River, Hwy 500, E of Ross Bay junction, 12 June 1997, B.C. Kondratieff and R.W. Baumann (CSU)]. **NS** [McDunnough (1931c) as *Ephemerella*]. **PQ** [McDunnough (1931a) as *Ephemerella*, type; McDunnough (1931c) as *Ephemerella*].
- Drunella doddsi* (Needham), 1927: **AB** [McDunnough (1928a) as *Ephemerella*]. **BC** [Clemens et al. (1938) as *Ephemerella*]. **NW** [Cobb et al. (1995)]. **YU** Allen and Edmunds (1962b) as *Ephemerella*].
- Drunella flavilinea* (McDunnough), 1926: **AB** [McDunnough (1926a) as *Ephemerella*, type; Hartland-Rowe (1964) as *Ephemerella lapidula* McDunnough, 1935]. **BC** [Walley (1927) as *Ephemerella*].
- Drunella grandis* (Eaton), 1884: **AB** [Neave (1929)]. **BC** [McDunnough (1934) as *Ephemerella ingens* McDunnough, 1934, type; Allen and Edmunds (1962b) as *Ephemerella*]. **SA** [Lehmkuhl (1976a) as *Ephemerella*]. **YU** [Allen and Edmunds (1962b)].
- Drunella lata* (Morgan), 1911: **NB** [Allen and Edmunds (1962b) as *Ephemerella*]. **NS** [Allen and Edmunds (1962b) as *Ephemerella*]. **PQ** [McDunnough (1926a) as *Ephemerella inflata* McDunnough, 1926, type; McDunnough (1931c) as *Ephemerella*].
- Drunella pelosa* (Mayo), 1951: **BC** [Scudder (1975) as *Ephemerella*].
- Drunella spinifera* (Needham), 1927: **AB** [Barton (1980) as *Ephemerella*]. **BC** [McDunnough (1934) as *Ephemerella autumnalis* McDunnough, 1934, type; Mayo (1952) as *Ephemerella*].
- Drunella tuberculata* (Morgan), 1911: **NB** [Petersen and Martin-Robichaud (1986)]. **NS** [Petersen et al. (1985)]. **ON** [McDunnough (1931c) as *Ephemerella*]. **PQ** [McDunnough (1931c) as *Ephemerella*].
- Drunella walkeri* (Eaton), 1884: **NB** [McDunnough (1931c) as *Ephemerella fuscata* (Walker), 1853; Allen and Edmunds (1962b) as *Ephemerella*]. **NS** [Allen and Edmunds (1962b) as *Ephemerella*]. **ON** [Walker (1853) as *Baetis fuscata* Walker, 1853, type of *D. walkeri*]. **PQ** [McDunnough (1925a) as *Ephemerella fuscata* (Walker), 1853; McDunnough (1931c) as *Ephemerella*].
- Ephemerella aurivillii* (Bengtsson), 1908: **AB** [McDunnough (1924b) as *Ephemerella norda* McDunnough, 1924, type; Barton (1980)]. **BC** [Wigle and Thommasen (1990)]. **NB** [Eidt (1975)]. **NF** [Newfoundland Island: Berner (1959). Labrador: larva, Walsh River, SW of Labrador City, Hwy 530, 11 June 1997, B.C. Kondratieff and R.W. Baumann (CSU); larvae, Trout River, Hwy 510 N of Pinware, 6 June 1998, B.C. Kondratieff and R.W. Baumann (CSU, PERC)]. **NS** [Petersen (1989)]. **NW** [Moore (1977)]. **ON** [Ide (1930) as *Ephemerella aronii* Eaton, 1908; Ide (1935b)]. **PE** [adult, Queens Co., Northeast Margaree River, above Intervale, 19 June 1993, B.C. Kondratieff and R.W. Baumann (CSU)]. **PQ** [McDunnough (1930) as *Ephemerella aronii* Esben-Petersen [sic]; Walley (1930) as *Ephemerella aronii* Eaton, 1908;

- McDunnough (1932a)]. **SA** [Lehmkuhl (1976a)].
- Ephemerella dorothea* Needham, 1908: **NB** [McDunnough (1931c)]. **NS** [Allen and Edmunds (1965)]. **PE** [larvae, Queens Co., Dunk River, Hwy 232, 29 June 1994, C. Goforth (CSU)]. **PQ** [McDunnough (1925a, 1925b)].
- Ephemerella excrucians* Walsh, 1862: **NB** [McDunnough (1931a)]. **NS** [Petersen et al. (1985)]. **NW** [Wiens et al. (1975) as *Ephemerella excrucians*?; Cobb and Flannagan (1980)]. **ON** [McDunnough (1925a, 1925d); McDunnough (1926b) as *Ephemerella semiflava* McDunnough, 1926, type]. **PQ** [McDunnough (1931c)].
- Ephemerella fratercula* McDunnough, 1925: **PQ** [McDunnough (1925b), type].
- Ephemerella inermis* Eaton, 1884 **AB** [McDunnough (1925a)]. **BC** [McDunnough (1925a)]. **NW** [Cobb et al. 1995)]. **SA** [Lehmkuhl (1976a)].
- Ephemerella infrequens* McDunnough, 1924: **AB** [McDunnough (1924b), type]. **BC** [Walley (1927)].
- Ephemerella invaria* (Walker), 1853: **MB** [Flannagan and Flannagan (1982)]. **NB** [Allen and Edmunds (1965)]. **NF** [Newfoundland Island: tributary to Salon River, E of Ten Mile Lake, Hwy 432, 8 June 1998, B.C. Kondratieff and R.W. Baumann (CSU, PERC). Labrador: larvae, Walsh River, SW of Labrador City, Hwy 530, 11 June 1997, B.C. Kondratieff and R.W. Baumann (CSU); adult, Ashuanipi River, Hwy 500, W of Ross Bay junction, 12 June 1997, B.C. Kondratieff and R.W. Baumann (CSU); adults, Raft River, Hwy 500, 34 mi N of Churchill Falls, 12 June 1997, B.C. Kondratieff and R.W. Baumann (CSU); larvae, West Metchin River, Hwy 500, 32 mi E of Churchill Falls, 13 June 1997, B.C. Kondratieff and R.W. Baumann (CSU); adults, Unknown River, Twin Falls rd. 21 mi W of Churchill Falls, 13 June 1997, B.C. Kondratieff and R.W. Baumann (CSU)]. **NS** [Allen and Edmunds (1965)]. **NW** [Wiens et al. (1975)]. **ON** [Walker (1853) as *Baetis*, type]. **PE** [Allen and Edmunds 1965)]. **PQ** [McDunnough (1925a, 1925b)].
- Ephemerella mucronata* (Bengtsson), 1909: **NW** [Harper and Harper (1981)]. **YU** [Harper and Harper (1981)].
- Ephemerella needhami* McDunnough, 1925: **NB** [Allen and Edmunds (1965)]. **NS** [Allen and Edmunds (1965)]. **ON** [Walley (1927)]. **PQ** [McDunnough (1925d), type].
- Ephemerella quebecensis* (Provancher), 1876 nomen dubium: **PQ** [Provancher (1876) as *Cloe*, type].
- Ephemerella rotunda* Morgan, 1911: **NB** [Eidt (1975)]. **NS** [Allen and Edmunds (1965)]. **ON** [McDunnough (1926a)]. **PQ** [McDunnough (1931c)].
- Ephemerella septentrionalis* McDunnough, 1925: **NB** [Allen and Edmunds (1965)]. **ON** [McDunnough (1925d), type]. **PQ** [McDunnough (1931c)].
- Ephemerella subvaria* McDunnough, 1931: **NB** [Petersen (1989)]. **NF** [Newfoundland Island: Larson and Colbo (1983). Labrador: larva, Miron River, Hwy 500, E of Ross Bay junction, 12 June 1997, B.C. Kondratieff and R.W. Baumann (CSU)]. **NS** [Petersen (1989)]. **ON** [Ide (1930) misidentified as *Ephemerella invaria* (Walker), 1853; McDunnough (1931a, 1931c)]. **PQ** [McDunnough (1925a, 1925b) misidentified as *Ephemerella invaria* (Walker), 1853; McDunnough (1931a), type; McDunnough (1931c)].
- Eurylophella aestiva* (McDunnough), 1931: **NB** [Eidt (1975) as *Ephemerella*]. **NS** [Petersen et al. (1985) as *Ephemerella*]. **ON** [Allen and Edmunds (1963b) as *Ephemerella*]. **PQ** [McDunnough (1931b) as *Ephemerella*, type].
- Eurylophella bartoni* (Allen), 1977: **ON** [Allen (1977) as *Ephemerella*, type].
- Eurylophella bicolor* (Clemens), 1913: **MB** [Neave (1934) as *Ephemerella*]. **NB** [McDunnough (1931b) as *Ephemerella*]. **NS** [Allen and Edmunds (1963b) as *Ephemerella*]. **NW** [Cobb and

- Flannagan (1980)]. **ON** [Clemens (1913) as *Ephemerella*, type]. **PQ** [McDunnough (1925a) as *Ephemerella*].
- Eurylophella bicoloroides* (McDunnough), 1938: **NS** [McDunnough (1938) as *Ephemerella*, type].
- Eurylophella coxalis* (McDunnough), 1926: **NS** [Allen and Edmunds (1963b) as *Ephemerella*]. **ON** [Walley (1927) as *Ephemerella*]. **PQ** [McDunnough (1926a) as *Ephemerella*, type].
- Eurylophella enoensis* Funk, 1994: **ON** [Funk and Sweeney (1994)].
- Eurylophella funeralis* (McDunnough), 1925: **NB** [Allen and Edmunds (1963b) as *Ephemerella*]. **NF** [Newfoundland Island: Larson and Colbo (1983)]. **NS** [Allen and Edmunds (1963b) as *Ephemerella*]. **ON** [Walley (1927) as *Ephemerella*]. **PQ** [McDunnough (1925b) as *Ephemerella*, type].
- Eurylophella lodi* (Mayo), 1952: **BC** [Allen and Edmunds (1963b) as *Ephemerella*].
- Eurylophella lutulenta* (Clemens), 1913: **NB** [McDunnough (1931b) as *Ephemerella*]. **ON** [Clemens (1913) as *Ephemerella lineata* Clemens, 1913, type; Clemens (1913) as *Ephemerella*, type]. **PQ** [McDunnough (1925a) as *Ephemerella*].
- Eurylophella minimella* (McDunnough), 1931: **NB** [Allen and Edmunds (1963b) as *Ephemerella*]. **NS** [Allen and Edmunds (1963b) as *Ephemerella*]. **ON** [Allen and Edmunds (1963b) as *Ephemerella*]. **PQ** [McDunnough (1931b) as *Ephemerella*, type].
- Eurylophella prudentialis* (McDunnough), 1931: **NB** [Allen and Edmunds (1963b) *Ephemerella*]. **NF** [Newfoundland Island: Berner (1959) as *Ephemerella*]. **NS** [Allen and Edmunds (1963b) as *Ephemerella*]. **ON** [McDunnough (1931b) as *Ephemerella*]. **PQ** [McDunnough (1931b) as *Ephemerella*, type].
- Eurylophella temporalis* (McDunnough), 1924: **MB** [Flannagan and Lawler (1972) as *Ephemerella*]. **NB** [McDunnough (1925a) as *Ephemerella*]. **NS** [Petersen et al. (1985) as *Ephemerella*]. **NW** [Funk and Sweeney (1994)]. **ON** [McDunnough (1924c), as *Ephemerella*, type]. **PQ** [McDunnough (1925a, 1925b) as *Ephemerella*]. **SA** [Allen and Edmunds (1963b) as *Ephemerella*].
- Eurylophella verisimilis* (McDunnough), 1930: **NB** [McDunnough (1931b) as *Ephemerella*]. **NS** [Allen and Edmunds (1963b) as *Ephemerella*]. **ON** [McDunnough (1931b) as *Ephemerella*]. **PQ** [McDunnough (1930) as *Ephemerella*, type].
- Serratella deficiens* (Morgan), 1911: **NB** [McDunnough (1931c) as *Ephemerella*]. **NF** [Labrador: larvae, Unknown River, Twin Falls rd. 21 mi W of Churchhill Falls, 13 June 1997, B.C. Kondratieff and R.W. Baumann (CSU)]. **NS** [McDunnough (1931c) as *Ephemerella*]. **ON** [McDunnough (1925c) as *Ephemerella atrescens* McDunnough, 1925, type; Ide (1930) as *Ephemerella*]. **PQ** [McDunnough (1925a, 1925b, 1925c) as *Ephemerella atrescens* McDunnough, 1925].
- Serratella molita* (McDunnough), 1930: **NB** [McDunnough (1931c) as *Ephemerella*]. **NS** [McDunnough (1930) as *Ephemerella*]. **PQ** [McDunnough (1930) as *Ephemerella*, type].
- Serratella serrata* (Morgan), 1911: **NB** [Allen and Edmunds (1963a) as *Ephemerella*]. **NS** [Petersen et al. (1985)]. **ON** [McDunnough (1925a) as *Ephemerella*]. **PQ** [McDunnough (1925a) as *Ephemerella*].
- Serratella serratoides* (McDunnough), 1931: **NB** [Allen and Edmunds (1963a) as *Ephemerella*]. **NS** [McDunnough (1931c) as *Ephemerella*]. **ON** [McDunnough (1931c) as *Ephemerella*]. **PQ** [McDunnough (1930) as *Ephemerella serrata* Morgan, 1911; McDunnough (1931a) as *Ephemerella*, type; McDunnough (1931c) as *Ephemerella*].
- Serratella sordida* (McDunnough), 1925: **ON** [Ide (1930) as *Ephemerella*]. **PQ** [McDunnough (1925c) as *Ephemerella*, type].
- Serratella teresa* (Traver), 1934: **BC** [Filmer (1964) as *Ephemerella*].

Serratella tibialis (McDunnough), 1924: **AB** [McDunnough (1924b) as *Ephemerella*, type]. **BC** [Clemens et al. (1939) as *Ephemerella*]. **NW** [Cobb et al. (1995)].

Timpanoga hecuba (Eaton), 1884: **AB** [McDunnough (1935) as *Ephemerella*]. **BC** [McDunnough (1935) as *Ephemerella*].

Timpanoga lita (Burks), 1949: **SA** [Lehmkuhl (1976a) as *Ephemerella*].

Timpanoga simplex (McDunnough), 1925: **AB** [Barton (1980) as *Ephemerella*]. **MB** [Allen and Edmunds (1962a) as *Ephemerella*]. **NB** [McDunnough (1931c) as *Ephemerella*]. **NS** [Petersen et al. (1985)]. **NW** [Cobb and Flannagan (1980) as *Ephemerella*]. **ON** [Walley (1927) as *Ephemerella*]. **PQ** [McDunnough (1925c) as *Ephemerella*, type]. **SA** [Lehmkuhl (1976a) as *Ephemerella*].

EPHEMERIDAE

Ephemer guttulata Pictet, 1843: **NB** [adults, Magaguadavic River, Hwy 3, Brockway, 30 June 1995, S. Schuler (CSU)]. **NF** [Labrador: male subimago, Walsh River, SW of Labrador City, Hwy 530, 11 June 1997, B.C. Kondratieff and R.W. Baumann (CSU)]. **NS** [adults, Hants Co., Herbert River, Hwy 4, 20 June 1994, R. Raymond (CSU)]. **ON** [McDunnough (1925)]. **PQ** [Provancher (1876) misidentified as *Ephemer simulans* Walker, 1853; Provancher (1878) as "Ephémère guttulée"].

Ephemer simulans Walker, 1853: **AB** [McDunnough (1925a)]. **BC** [McDunnough (1925a)]. **MB** [Banks (1912) as *Ephemer decora* Walker, 1853; Neave (1932)]. **NB** [adults, Charlotte Co., tributary of Digdequash River, Rt. 122, 15 June 1993, B.C. Kondratieff and R.W. Baumann (CSU)]. **NS** [Whiting (1992)]. **NW** [Wiens et al. (1975)]. **ON** [Walker (1853) as *Palingenia natata* Walker, 1853, type; Banks (1910)]. **PQ** [Walker (1853), type]. **SA** [Hagen (1863) as *Ephemer natata* (Walker), 1853; Lehmkuhl (1976a)].

Ephemer varia Eaton, 1883: **NS** [adult, Hants Co., Herbert River, Hwy 4, 20 June 1994, R. Raymond (CSU)]. **ON** [Griffiths (1996)]. **PQ** [McDunnough (1925a, 1925b)].

Hexagenia atrocaudata McDunnough, 1924: **ON** [McDunnough (1924a), type].

Hexagenia bilineata (Say), 1824: **MB** [Hagen (1863) as *Palingenia*]. **ON** [Banks (1910)]. **PQ** [Provancher (1876) misidentified as *Palingenia limbata* (Serville), 1829; Provancher (1878) as *Palingenia*].

Hexagenia limbata (Serville), 1829: **AB** [Clifford (1969)]. **BC** [McDunnough (1925a)]. **MB** [Hagen (1861) as *Palingenia occulta* Walker, 1853; McDunnough (1925a)]. **NB** [Spieth (1941)]. **NW** [Harper and Harper (1981)]. **ON** [Walker (1853) as *Palingenia occulta* Walker, 1853, type; Walker (1853) as *Palingenia viridescens* Walker, 1853, type; Hagen (1861) as *Palingenia*; McDunnough (1927a) as *Hexagenia affiliata* McDunnough, 1927, type; Spieth (1941) as *Hexagenia munda* Eaton, 1883]. **PQ** [McDunnough (1925a); McDunnough (1927a) as *Hexagenia occulta* (Walker), 1853; Spieth (1941) as *Hexagenia munda* Eaton, 1883]. **SA** [Spieth (1941)].

Hexagenia rigida McDunnough, 1924: **MB** [McDunnough (1924a)]. **NB** [Spieth (1941)]. **NS** [adult, Hants Co., Herbert River, Hwy 4, 20 June 1994, R. Raymond (CSU)]. **ON** [McDunnough (1924a), type]. **PQ** [McDunnough (1924a)].

Litobranchna recurvata (Morgan), 1913: **NF** [Labrador: larvae, Route 530 S of Labrador City, overflow of Walsh River, 11 June 1997, B.C. Kondratieff and R.W. Baumann (PERC)]. **ON** [Spieth (1941) as *Hexagenia*]. **PQ** [Walley (1927) as *Hexagenia*].

Pentagenia vittigera (Walsh), 1862: **MB** [McDunnough (1925a)]. **ON** [Griffiths (1996) as unspecified species of *Pentagenia* from Thunder Bay].

HEPTAGENIIDAE

Acanthomola pubescens Whiting & Lehmkuhl, 1987: **AB** [Whiting and Lehmkuhl (1987b)]. **SA** [Whiting and Lehmkuhl (1987b), type].

Anepeorus rusticus McDunnough, 1925: **SA** [McDunnough (1925d), type].

Anepeorus simplex (Walsh), 1963: **ON** [Griffiths (1996) as unspecified species of *Anepeorus*].

Cinygma integrum Eaton, 1885: **BC** [McDunnough (1926b)].

Cinygma lyriforme (McDunnough), 1924: **AB** [McDunnough (1924b) as *Ecdyonurus*, type].

Cinygmula confusa (McDunnough), 1924: **AB** [McDunnough (1924a) as *Cinygma*, type].

Cinygmula gartrelli McDunnough, 1934: **BC** [McDunnough (1934), type].

Cinygmula kootenai McDunnough, 1943: **BC** [McDunnough (1943), type].

Cinygmula mimus (Eaton), 1885: **AB** [McDunnough (1924a) as *Cinygma*]. **BC** [Walley (1927) as *Cinygma*]. **SA** [Whiting and Sheard (1990)]. **YU** [Harper and Harper (1997)].

Cinygmula par (Eaton), 1885: **AB** [McDunnough (1924a) as *Cinygma hyalina* McDunnough, 1924, type]. **BC** [Walley (1927) as *Cinygma hyalina* McDunnough, 1924; Scudder (1975)]. **YU** [Harper and Harper (1997)].

Cinygmula ramaleyi (Dodds), 1923: **AB** [McDunnough (1924a) as *Cinygma*; Neave (1929) as *Iron tollandi* Dodds, 1923]. **BC** [Walley (1927) as *Cinygma*]. **YU** [Harper and Harper (1997)].

Cinygmula subaequalis (Banks), 1914: **NB** [Whiting (1992)]. **NS** [McDunnough (1924a) as *Cinygma atlantica* McDunnough, 1924, type; Whiting (1992)]. **PE** [adults, Queens Co., Dund River, Hwy 232, 29 June 1994, C. Goforth (CSU)]. **PQ** [Dulude (1992)].

Cinygmula tarda (McDunnough), 1929: **AB** [McDunnough (1929) as *Cinygma*, type]. **NW** [Cobb and Flannagan (1980) as *Cinygmula* cf. *tarda*].

Cinygmula uniformis McDunnough, 1934: **BC** [McDunnough (1934), type]. **YU** [adults, Yukon – Alaska Hwy M P 632, 28 June 1952 (PERC)].

Epeorus albertae (McDunnough), 1924: **AB** [McDunnough (1924a) as *Iron*, type]. **BC** [Wigle and Thommasen (1990)]. **MB** [Flannagan et al. (1990)]. **ON** [larvae, North Madawaska River, Algonquin Park, 11 July 1955, B.V. Petersen (PERC)].

Epeorus deceptivus (McDunnough), 1924: **AB** [McDunnough (1924a) as *Cinygma*, type]. **BC** [McDunnough (1926b) as *Iron*]. **NW** [Moore (1977)].

Epeorus dulciana (McDunnough), 1935: **BC** [McDunnough (1935) as *Iron*, type].

Epeorus fragilis (Morgan), 1911: **NS** [McDunnough (1925a) as *Iron*]. **PQ** [McDunnough (1933a) as *Iron gracilis* [sic] Morgan, 1911; Dulude (1992) as *Iron*].

Epeorus grandis McDunnough, 1924: **AB** [McDunnough (1924a) as *Iron*, type]. **BC** [McDunnough (1925a) as *Iron*]. **NW** [Cobb et al. (1995)]. **YU** [Harper and Harper (1997)].

Epeorus longimanus (Eaton), 1885: **AB** [McDunnough (1924a) as *Iron*]. **BC** [McDunnough (1925a) as *Iron*]. **NW** [Cobb et al. (1995)]. **SA** [Lehmkuhl (1976a)]. **YU** [Harper and Harper (1997)].

Epeorus permagnus (Traver), 1935: **BC** [Filmer (1964)].

Epeorus pleuralis (Banks), 1910: **NB** [Walley (1927) as *Iron*]. **NF** [Newfoundland Island, Berner (1959) as *Epeorus* sp.; Dance (1979). Labrador: adults, stream entering Moosehead Lake, Hwy 500, E of Labrador City, 12 June 1997, B.C. Kondratieff and R.W. Baumann (CSU);

- adult, Ahuanipi River, Hwy 500, W of Ross Bay junction, 12 June 1997, B.C. Kondratieff and R.W. Baumann (CSU); adults, West Metchin River, Hwy 500, 32 mi E of Churchill Falls, 13 June 1997, B.C. Kondratieff and R.W. Baumann (CSU); larva, Trout Brook, Hwy 510 N of Pinware, 6 June 1998, B.C. Kondratieff and R.W. Baumann (CSU)]. **NS** [Whiting (1992)]. **ON** [Ide (1930) as *Iron*]. **PE** [adult, Queens Co., Dunk River, Hwy 232, 18 June 1993, B.C. Kondratieff and R.W. Baumann (CSU); adult, Kings Co., Morell River, Hwy 320, 20 June 1993, B.C. Kondratieff and R.W. Baumann (CSU)]. **PQ** [McDunnough (1925a, 1925b) as *Iron*; Vincent (1985) as *Iron fraudator* Traver, 1935].
- Epeorus punctatus* (McDunnough), 1925: **ON** [McDunnough (1925d) as *Iron*, type]. **PQ** [McDunnough (1925d) as *Iron*].
- Epeorus suffusus* (McDunnough), 1925: **ON** [Walley (1927) as *Iron*]. **PQ** [McDunnough (1925d) as *Iron*, type].
- Epeorus vitreus* (Walker), 1853: **MB** [Friesen et al. (1980)]. **NB** [Petersen and Martin-Robichaud (1986)]. **NS** [Petersen (1989)]. **ON** [Walker (1853) as *Palingenia*, type; McDunnough (1924a) as *Iron humeralis* (Morgan), 1911]. **PQ** [McDunnough (1925a, 1925b, 1925d) as *Iron humeralis* (Morgan), 1911; Harper and Harper (1981)].
- Heptagenia adaequata* McDunnough, 1924: **AB** [McDunnough (1924a), type]. **SA** [McDunnough (1925a)].
- Heptagenia diabasia* Burks, 1946: **ON** [larvae, Madawaska River, Algonquin Park, 8 July 1966, R. and D. Koss (PERC)]. **PQ** [Koss (1970)]. **SA** [Whiting and Sheard (1990)].
- Heptagenia elegantula* (Eaton), 1885: **BC** [McDunnough (1925a)]. **MB** [McDunnough (1924a) as *Heptagenia querula* McDunnough, 1924, type; McDunnough (1925a)]. **SA** [Walley (1927)].
- Heptagenia flavescens* (Walsh), 1862: **BC** [Banks (1912)]. **MB** [McDunnough (1924a)]. **NW** [Wiens et al. (1975)]. **ON** [Barton and Hynes (1978)]. **SA** [Lehmkuhl (1976a)].
- Heptagenia manifesta* (Eaton), 1885 nomen dubium: **PQ** [Walley (1927)].
- Heptagenia marginalis* Banks, 1910: **ON** [McDunnough (1925a)]. **PQ** [McDunnough (1925a)].
- Heptagenia pulla* (Clemens), 1913: **MB** [Neave (1934)]. **NB** [adult, Miramichi, 3–5 May 1962, B.V. Petersen (PERC)]. **NF** [Newfoundland Island: Larson and Colbo (1983)]. **NS** [Whiting (1992)]. **NW** [Wiens et al. (1975); Moore (1977) as *Heptagenia julia* Traver, 1933]. **ON** [Clemens (1913) as *Ecdyonurus grandis* sp. nov. (nomen nudum); Clemens (1913) as *Ecdyurus*, type]. **PQ** [McDunnough (1925a, 1925b)]. **SA** [Lehmkuhl (1976a)]. **YU** [Harper and Harper (1981)].
- Heptagenia solitaria* McDunnough, 1924: **AB** [McDunnough (1924a), type]. **BC** [McDunnough (1925a)]. **SA** [Lehmkuhl (1976a)].
- Ironodes arctus* Traver, 1935: **BC** [Edmunds et al. (1976) – no data].
- Ironodes flavipennis* Traver, 1935: **BC** [Traver (1935b), type].
- Ironodes nitidus* (Eaton), 1885: **BC** [Wigle and Thommasen (1990) as *Epeorus*].
- Leucrocuta aphrodite* (McDunnough), 1926: **MB** [Flannagan and Flannagan (1982) as *Heptagenia*]. **ON** [Walley (1927) as *Heptagenia*]. **PQ** [McDunnough (1926a) as *Heptagenia*, type].
- Leucrocuta hebe* (McDunnough), 1924: **MB** [McDunnough (1925a) as *Heptagenia*]. **NB** [Petersen (1989) as *Heptagenia*]. **NS** [Petersen (1989) as *Heptagenia*]. **NW** [Cobb and Flannagan (1980) as *Heptagenia*]. **ON** [McDunnough (1924a) as *Heptagenia*]. **PQ** [McDunnough (1924a) as *Heptagenia*, type]. **SA** [Lehmkuhl (1976a) as *Heptagenia*].
- Leucrocuta jewetti* (Allen), 1966: **MB** [Friesen et al. (1980) as *Heptagenia*].

- Leucrocuta junco* (McDunnough), 1924: **ON** [Barton and Hynes (1978) as *Heptagenia*]. **PQ** [McDunnough (1924a) as *Heptagenia*, type].
- Leucrocuta maculipennis* (Walsh) 1863: **MB** [McDunnough (1924a) as *Heptagenia*]. **NW** [Cobb and Flannagan (1980) as *Heptagenia*]. **ON** [Clemens (1913) as *Ecdyurus*].
- Leucrocuta minerva* (McDunnough), 1924: **ON** [McDunnough (1924a) as *Heptagenia*]. **PQ** [McDunnough (1924a) as *Heptagenia*, type].
- Leucrocuta umbratica* (McDunnough), 1931: **MB** [Flannagan and Flannagan (1982) as *Heptagenia*]. **PQ** [McDunnough (1931a) as *Heptagenia*, type].
- Leucrocuta walshi* (McDunnough), 1926: **ON** [McDunnough (1926a) as *Heptagenia*, type]. **PQ** [Dulude (1992)].
- Macdunnoa nipawinia* Lehmkuhl, 1979: **SA** [Lehmkuhl (1979), type].
- Nixe criddlei* (McDunnough), 1927: **AB** [McDunnough (1927b) as *Heptagenia*].
- Nixe horrida* (McDunnough), 1926: **ON** [McDunnough (1926b) as *Heptagenia*, type].
- Nixe inconspicua* (McDunnough), 1924: **MB** [McDunnough (1924a) as *Heptagenia*, type]. **ON** [Walley (1927)]. **PQ** [Walley (1927)]. **SA** [Whiting and Sheard (1990)].
- Nixe lucidipennis* (Clemens), 1913: **ON** [Clemens (1913) as *Ecdyurus*, type]. **PQ** [McDunnough (1925a) as *Heptagenia*]. **SA** [Whiting and Sheard (1990)].
- Nixe perfida* (McDunnough), 1926: **ON** [McDunnough (1926b) as *Heptagenia*, type].
- Nixe rusticalis* (McDunnough), 1931: **PQ** [McDunnough (1931a) as *Heptagenia*, type]. **SA** [Whiting and Sheard (1990)].
- Nixe simplicioides* (McDunnough), 1924: **AB** [McDunnough (1924a) as *Heptagenia*, type]. **BC** [Scudder (1975) as *Heptagenia*]. **MB** [Cobb et al. (1991)].
- Raptoheptagenia cruentata* (Walsh), 1863: **MB** [McDunnough (1924a) as *Heptagenia reversalis* McDunnough, 1924, type]. **SA** [Whiting and Lehmkuhl (1987a)].
- Rhithrogena amica* Traver, 1935: **PQ** [Dulude (1992)].
- Rhithrogena anomala* McDunnough, 1928: **PQ** [McDunnough (1928b), type].
- Rhithrogena brunneotincta* McDunnough, 1933: **PQ** [McDunnough (1933c), type].
- Rhithrogena futilis* McDunnough, 1934: **AB** [McDunnough (1926a) as *Rhithrogena doddsi* McDunnough, 1926, type; McDunnough (1934)]. **YU** [Harper and Harper (1981)].
- Rhithrogena gaspeensis* McDunnough, 1933 **PQ** [McDunnough (1933c), type].
- Rhithrogena hageni* Eaton, 1885: **AB** [McDunnough (1926a) as *Rhithrogena doddsi* McDunnough, 1926, type; McDunnough (1928a) as *Rhithrogena brunnea* Hagen, 1875]. **BC** [Scudder (1975)].
- Rhithrogena impersonata* (McDunnough), 1925: **NB** [Whiting (1992)]. **NS** [Whiting (1992)]. **ON** [Ide (1954); Ide (1954) as *Rhithrogena sanguinea* Ide, 1954, type]. **PQ** [McDunnough (1925d) as *Heptagenia*, type].
- Rhithrogena jejuna* Eaton, 1885: **AB** [McDunnough (1925a) as *Heptagenia*]. **BC** [Walley (1927)]. **NB** [Whiting (1992)]. **NF** [Labrador: Harper and Harper (1981)]. **NS** [Whiting (1992)]. **NW** [McDunnough (1925a) as *Heptagenia*]. **ON** [Walker (1853) as *Baetis fusca* Walker, 1853, type of *R. jejuna*]. **PQ** [Harper et al. (1975)]. **SA** [Walley (1927)].
- Rhithrogena morrisoni* (Banks), 1924: **AB** [McDunnough (1934)]. **BC** [Scudder (1975)].
- Rhithrogena pellucida* Daggy, 1945: **MB** [Friesen et al. (1980)]. **ON** [larvae, Missinaibi River, Station 6-1, 21 July 1996, R.W. Griffiths (PERC, RWG)].
- Rhithrogena robusta* Dodds, 1923: **AB** [McDunnough (1929)]. **BC** [Scudder (1975)].

- Rhithrogena undulata* (Banks), 1924: **NF** [Newfoundland Island: Dance (1979)]. **NW** [Wiens et al. (1975)]. **SA** [Whiting and Sheard (1990)]. **YU** [Harper and Harper (1997)].
- Rhithrogena virilis* McDunnough, 1934: **AB** [McDunnough (1928a) as *Rhithrogena brunnea* (Hagen), 1875; Clifford et al. (1973)]. **BC** [McDunnough (1934), type].
- Stenacron candidum* (Traver), 1935: **ON** [Flannagan and Cobb (1995)]. **PQ** [Dulude (1992)].
- Stenacron carolina* (Banks), 1914: **ON** [Sprules (1947)]. **PQ** [McDunnough (1925a, 1925b) as *Ecdyonurus*].
- Stenacron gildersleeveei* (Traver), 1935: **MB** [adults, Winnipeg River, Hwy 44, 8 July 1979, G.F. Edmunds (PERC)].
- Stenacron interpunctatum* (Say), 1839: **AB** [Barton (1980); Hamilton and Clifford (1983) as *Stenacron canadensis* (Walker), 1853]. **MB** [Banks (1912) as *Heptagenia canadensis* (Walker), 1853; McDunnough (1925a) as *Ecdyonurus*]. **NB** [Lewis (1974) as *Stenonema*]. **NF** [Labrador: adults and larvae, Raft River, West of Churchhill Falls, Rt 5000, 2 June 1997, B.C. Kondratieff and R.W. Baumann (CSU)]. **NS** [Petersen et al. (1987)]. **ON** [Say (1839) as *Baetis*, type; Walker (1853) as *Baetis canadensis* Walker, 1853, type; Clemens (1913) as *Heptagenia frontalis* Banks, 1910; McDunnough (1933a) as *Ecdyonurus heterotarsalis* McDunnough, 1933]. **PE** [larvae, Queens Co., Dunk River, Hwy 232, 29 June 1994, C. Goforth (CSU)]. **PQ** [Clemens and Leonard (1924) as *Heptagenia*; McDunnough (1925a) as *Ecdyonurus frontalis* (Banks), 1910; McDunnough (1925a, 1925b) as *Ecdyonurus canadensis* (Walker), 1853; McDunnough (1933a) as *Ecdyonurus heterotarsalis* McDunnough, 1933, type; Traver (1935a) as *Stenonema*]. **SA** [Lehmkuhl (1976a)].
- Stenonema exiguum* Traver, 1933: **ON** [Daggy (1945)].
- Stenonema femoratum* (Say), 1823: **MB** [Neave (1934) as *Stenonema tripunctatum* (Banks), 1920; Bednarik and McCafferty (1979)]. **NB** [Whiting (1992)]. **NF** [Newfoundland Island: Bednarik and McCafferty (1979)]. **NS** [Petersen et al. (1985)]. **NW** [Moore (1977) as *Stenonema tripunctatum* (Banks), 1910]. **ON** [Clemens (1913) as *Heptagenia tripunctata* Banks, 1910; Bednarik and McCafferty (1979)]. **PQ** [Provancher (1876) as *Baetis*; McDunnough (1925a) as *Ecdyonurus tripunctatus* (Banks), 1910]. **SA** [Oliver (1960) as *Stenonema tripunctatum* (Banks), 1910; Whiting and Sheard (1990)].
- Stenonema flaveolum* (Pictet), 1843 nomen dubium: **ON** [Hagen (1861) as *Baetis*].
- Stenonema ithaca* (Clemens & Leonard), 1924: **ON** [Ide (1930) as *Ecdyonurus*]. **PQ** [McDunnough (1933) as *Ecdyonurus*].
- Stenonema luteum* (Clemens), 1913: **NB** [Petersen (1989)]. **NS** [Petersen et al. (1985)]. **ON** [Clemens (1913) as *Heptagenia*, type]. **PQ** [McDunnough (1925a) as *Ecdyonurus*].
- Stenonema mediopunctatum* (McDunnough), 1926: **MB** [Friesen et al. (1980) as *Stenonema nepotellum* (McDunnough), 1933; Gyselman (1980) as *Stenonema nepotellum* (McDunnough), 1933; Flannagan and Flannagan (1982)]. **NB** [Petersen and Martin-Robichaud (1986)]. **ON** [Banks (1910) as *Heptagenia terminata* (Walsh), 1862; McDunnough (1926a) as *Ecdyonurus*, type; McDunnough (1933a) as *Ecdyonurus nepotellus* McDunnough, 1933]. **PQ** [McDunnough (1933a) as *Ecdyonurus nepotellus* McDunnough, 1933, type; Bednarik and McCafferty (1979)].
- Stenonema mexicanum* (Ulmer), 1920: **MB** [Friesen et al. (1980) as *Stenonema* cf *integrum* (McDunnough), 1924]. **ON** [Walley (1927) as *Ecdyonurus integer* (McDunnough), 1924]. **PQ** [Walley (1927) as *Ecdyonurus integer* (McDunnough), 1924].
- Stenonema modestum* (Banks), 1910: **NB** [McDunnough (1933a) as *Ecdyonurus rubromaculatus* (Clemens), 1913; Petersen and Martin-Robichaud (1986)]. **NS** [McDunnough (1933a) as

- Ecdyonurus rubromaculatus* (Clemens), 1913; Petersen et al. (1987)]. **ON** [Clemens (1913) misidentified as *Heptagenia flavescens* (Walsh), 1862; Clemens (1913) as *Heptagenia rubromaculata* Clemens, 1913, type; Walley (1927) as *Ecdyonurus ruber* McDunnough, 1926; Bednarik and McCafferty (1979)]. **PQ** [McDunnough (1925a) as *Ecdyonurus rubromaculatus* (Clemens), 1913; McDunnough (1926a) as *Ecdyonurus ruber* McDunnough, 1926, type; Bednarik and McCafferty (1979)].
- Stenonema pulchellum* (Walsh), 1862: **ON** [Hagen (1861) misidentified as *Heptagenia luridipennis* (Burmeister), 1839; Walley (1927) as *Ecdyonurus*]. **PQ** [Eaton (1871) misidentified as *Heptagenia luridipennis* (Burmeister), 1839].
- Stenonema terminatum* (Walsh), 1862: **AB** [Walley (1927) as *Ecdyonurus*]. **BC** [Lewis (1974)]. **MB** [McDunnough (1925a) as *Ecdyonurus*; Lewis (1974) as *Stenonema bipunctatum* (McDunnough), 1926]. **NF** [Labrador: larvae, Raft River, W of Churchill Falls, Rt 500, 2 June 1997, B.C. Kondratieff and R.W. Baumann (CSU)]. **NS** [adults, Hants Co., Nine Mile River, Hwy 14, 23 June 1993, B.C. Kondratieff and R.W. Baumann (CSU)]. **ON** [McDunnough (1926a) as *Ecdyonurus bipunctatus* McDunnough, 1926, type; McDunnough (1926a) as *Ecdyonurus placita* (Banks), 1910; Bednarik and McCafferty (1979)]. **PE** [larvae, Queens Co., Dunk River, Hwy 232, 29 June 1994, C. Goforth (CSU)]. **PQ** [Provancher (1876) misidentified as *Baetis interpunctatum* Say, 1839; Provancher (1878) as *Heptagenia*; McDunnough (1926a) as *Ecdyonurus placita* (Banks), 1910; Harper and Harper (1976) as *Stenonema bipunctatum* (McDunnough), 1926]. **SA** [Dosdall and Lehmkuhl (1989a, 1989b)].
- Stenonema vicarium* (Walker), 1853: **AB** Barton (1980)]. **MB** [Bednarik and McCafferty (1979)]. **NB** [McDunnough (1933a) as *Ecdyonurus fuscus* (Clemens), 1913; Walley (1927) as *Ecdyonurus*]. **NF** [Newfoundland Island: Larson and Colbo (1983). Labrador: larvae and adults, Walsh River, SW of Labrador City, Hwy 530, 11 June 1997, B.C. Kondratieff and R.W. Baumann (CSU); adult, Rapid Brook, Hwy 500 E of Churchill Falls, 13 June 1997, B.C. Kondratieff and R.W. Baumann (CSU); adult, Unknown River, Twin Falls rd. 21 mi W of Churchill Falls, 13 June 1997, B.C. Kondratieff and R.W. Baumann (CSU)]. **NS** [Walker (1853) as *Baetis tessellata* Walker, 1853, type; Bednarik and McCafferty (1979)]. **NW** [Cobb and Flannagan (1980)]. **ON** [Clemens (1913) as *Heptagenia fusca* Clemens, 1913, type; Walley (1927) as *Ecdyonurus*; McDunnough (1933a) as *Ecdyonurus rivulicolus* McDunnough, 1933]. **PE** [adults, Queens Co., Dunk River, Hwy 232, 29 June 1994, C. Goforth (CSU)]. **PQ** [Eaton (1871) as *Heptagenia*; McDunnough (1925a, 1925b) as *Ecdyonurus fuscus* (Clemens), 1913; McDunnough (1933a) as *Ecdyonurus rivulicolus* McDunnough, 1933, type]. **SA** [Lehmkuhl (1976a)].

ISONYCHIIDAE

- Isonychia bicolor* (Walker), 1853: **MB** [Friesen et al. (1980); Friesen et al. (1980) as *Isonychia harperi* Traver, 1934]. **NB** [adults, Magaguadavic River, Hwy 3, Brockway, 30 June 1995, S. Schuler (CSU)]. **NF** [Labrador: all adults, Walsh River, SW of Labrador City, Hwy 530, 11 June 1997, B.C. Kondratieff and R.W. Baumann (CSU); Miron River, Hwy 500 E of Ross Bay junction, 12 June 1997, B.C. Kondratieff and R.W. Baumann (CSU); Raft River, Hwy 500, 34 mi N of Churchill Falls, 12 June 1997, B.C. Kondratieff and R.W. Baumann (CSU)]. **NS** [larvae, Lunenburg Co., Gold River at New Ross, 23 June 1993, B.C. Kondratieff and R.W. Baumann (CSU)]. **ON** [Walker (1853) as *Palingenia*, type; Clemens (1913) as *Chiroteneutes albomanicatus* (Needham), 1905; Traver (1935a) as *Isonychia christina* Traver, 1934]. **PQ** [McDunnough (1925a); Traver (1935a) as *Isonychia christina* Traver, 1934].

Isonychia campestris McDunnough, 1931: **AB** [McDunnough (1931d) as *Isonychia sicca campestris* McDunnough, 1931, type]. **MB** [McDunnough (1931d) as *Isonychia sicca campestris* McDunnough, 1931]. **SA** [McDunnough (1931d) as *Isonychia sicca campestris* McDunnough, 1931; Kondratieff and Voshell (1984)].

Isonychia rufa McDunnough, 1931: **MB** [Friesen et al. (1980)].

Isonychia sicca (Walsh), 1862: **MB** [McDunnough (1925a)]. **ON** [Ide (1930)].

LEPTOHYPHIDAE

Tricorythodes allectus (Needham), 1905: **MB** [Friesen et al. (1980)]. **NB** [Petersen and Martin-Robichaud (1986) as *Tricorythodes atratus* (McDunnough), 1923]. **NF** [Newfoundland Island: Berner (1959) as *Tricorythodes atratus* (McDunnough), 1923]. **ON** [Clemens (1913) as *Tricorythus*; Ide (1935b) as *Tricorythodes atratus* (McDunnough), 1923]. **PQ** [McDunnough (1923) as *Tricorythus atratus* McDunnough, 1923, type].

Tricorythodes cobbi Alba-Tercedor and Flannagan, 1995: **MB** [Alba-Tercedor and Flannagan (1995), type].

Tricorythodes minutus Traver, 1935: **AB** [McDunnough (1931e) as *Tricorythodes explicatus* (Eaton), 1892; Clifford et al (1973)]. **BC** [McDunnough (1939) as *Tricorythodes fallacina* McDunnough, 1939, type; Scudder (1975)]. **ON** [McDunnough (1931e) as *Tricorythodes explicatus* (Eaton), 1892; Traver (1935a) as *Tricorythodes fallax* Traver, 1935]. **PQ** [McDunnough (1931e) as *Tricorythodes explicatus* (Eaton), 1892; Traver (1935a) as *Tricorythodes fallax* Traver, 1935; Dulude (1992)]. **SA** [McDunnough (1931e) as *Tricorythodes explicatus* (Eaton), 1892; Traver (1935a) as *Tricorythodes fallax* Traver, 1935; Dosdall and Lehmkuhl (1989a, 1989b)].

Tricorythodes mosegus Alba-Tercedor and Flannagan, 1995: **MB** [Alba-Tercedor and Flannagan (1995), type].

Tricorythodes stygiatus McDunnough, 1931: **PQ** [McDunnough (1931e), type].

LEPTOPHLEBIIDAE

Choroerpes albiannulata McDunnough, 1924: **AB** [McDunnough (1924b), type]. **SA** [Lehmkuhl (1976a)].

Choroerpes basalis (Banks), 1900: **ON** [Clemens (1913); Spieth (1938) as *Choroerpes fusca* Spieth, 1938, type]. **PQ** [Banks (1900) as *Leptophlebia*, type].

Habrophlebia vibrans Needham, 1907: **NB** [Petersen (1989)]. **NF** [Newfoundland Island: Larson and Colbo (1983)]. **NS** [Petersen et al. (1987)]. **ON** [McDunnough (1925a, 1925b)]. **PQ** [McDunnough (1925a)].

Habrophlebiodes americana (Banks), 1903: **NB** [Petersen (1989)]. **ON** [Walley (1927)]. **PQ** [McDunnough (1925a, 1925b)].

Leptophlebia cupida (Say), 1823: **AB** [McDunnough (1925a) as *Blasturus*]. **BC** [McDunnough (1925a) as *Leptophlebia pallipes* (Walker), 1853; Clemens et al. (1939) as *Blasturus*]. **MB** [McDunnough (1925a) as *Blasturus*]. **NB** [Whiting (1992)]. **NF** [Newfoundland Island: Walker (1853) as *Ephemera hebes* Walker, 1853, type; Hagen (1861) as *Baetis ignava* Hagen, 1861, type; Berner (1959). Labrador: adults, Walsh River, SW of Labrador City, Hwy 530, 11 June 1997, B.C. Kondratieff and R.W. Baumann (CSU); adult, stream entering Moosehead lake, Hwy 500, E of Labrador City, 12 June 1997, B.C. Kondratieff and R.W. Baumann (CSU);

- adult, Miron River, Hwy 500, E of Ross Bay junction, 12 June 1997, B.C. Kondratieff and R.W. Baumann (CSU); adults, Raft River, Hwy 500, 34 mi N of Churchhill Falls, 12 June 1997, B.C. Kondratieff and R.W. Baumann (CSU); adults, West Mechin River, Hwy, 500, 32 mi E of Churchhill Falls, 13 June 1997, B.C. Kondratieff and R.W. Baumann (CSU); adult, Unknown River, Twin Falls rd, 21 mi W of Churchhill Falls, 13 June 1997, B.C. Kondratieff and R.W. Baumann (CSU)]. **NS** [Walker (1853) as *Palingenia concinna* Walker, 1853, type; Walker (1853) as *Palingenia pallipes* Walker, 1853, type; Eaton (1871)]. **ON** [Clemens (1913) as *Blasturus*]. **PE** [adults, Prince Co., tributary to Grand River, Hwy 177, S of Wellington, 18 June 1993, B.C. Kondratieff and R.W. Baumann (CSU)]. **PQ** [McDunnough (1925a, 1925b) as *Blasturus*]. **SA** [Hagen (1863) as *Potamanthus*].
- Leptophlebia gravastella* (Eaton), 1884: **BC** [McDunnough (1925a) as *Blasturus*].
- Leptophlebia johnsoni* McDunnough, 1924: **ON** [Walley (1927)]. **PQ** [McDunnough (1925a, 1925b)].
- Leptophlebia nebulosa* (Walker), 1853: **AB** [McDunnough (1925a) as *Blasturus*]. **BC** [McDunnough (1925a) as *Blasturus*]. **MB** [Neave (1934)]. **NB** [McDunnough (1925a) as *Blasturus*]. **NS** [adult, Colchester Co., Bailey's Brook, Rt 256 W of Falls, 3 June 1998, B.C. Kondratieff and R.W. Baumann (CSU)]. **NW** [Wiens et al. (1975)]. **ON** [Walker (1853) as *Palingenia*, type]. **PQ** [McDunnough (1925a) as *Blasturus*]. **SA** [Hagen (1863) as *Potamanthus*]. **YU** [Harper and Harper (1981)].
- Paraleptophlebia adoptiva* (McDunnough), 1929: **NB** [Whiting (1992)]. **NF** [Newfoundland Island: Larson and Colbo (1983)]. **NS** [Whiting (1992)]. **ON** [Ide (1930) as *Leptophlebia*]. **PQ** [McDunnough (1929) as *Leptophlebia*, type]. **SA** [Lehmkuhl (1976a)].
- Paraleptophlebia bicornuta* (McDunnough), 1926: **AB** [McDunnough (1926b) as *Leptophlebia*, type]. **BC** [McDunnough (1926b) as *Leptophlebia*].
- Paraleptophlebia brunneipennis* (McDunnough), 1924: **BC** [McDunnough (1924b) as *Leptophlebia*].
- Paraleptophlebia debilis* (Walker), 1853: **AB** [McDunnough (1928a) as *Leptophlebia*]. **BC** [Walley (1927) as *Leptophlebia*]. **MB** [McDunnough (1925a) as *Leptophlebia*]. **NB** [larvae, Miramichi River, 2 September 1950, E.L. Bousefield (PERC)]. **NF** [Newfoundland Island: Larson and Colbo (1983)]. **NS** [Walker (1853) as *Baetis*, type]. **ON** [Walley (1927) as *Leptophlebia*]. **PQ** [McDunnough (1925a, 1925d) as *Leptophlebia*]. **SA** [Lehmkuhl (1976a)]. **YU** [Harper and Harper (1997)].
- Paraleptophlebia gregalis* (Eaton), 1884: **BC** [McDunnough (1926b) as *Leptophlebia invalida* McDunnough, 1926, type; Walley (1927)].
- Paraleptophlebia guttata* (McDunnough), 1924: **NB** [Harper and Harper (1986)]. **NS** [Harper and Harper (1986)]. **NW** [Moore (1977)]. **ON** [Walley (1927) as *Leptophlebia*]. **PQ** [McDunnough (1924a), as *Leptophlebia*, type].
- Paraleptophlebia heteronea* (McDunnough), 1924: **AB** [McDunnough (1924a) as *Leptophlebia*, type]. **BC** [McDunnough (1925a) as *Leptophlebia*].
- Paraleptophlebia memorialis* (Eaton), 1884: **AB** [McDunnough (1928a) as *Leptophlebia pallipes* Hagen, 1875]. **BC** [McDunnough (1924a) as *Leptophlebia pallipes* Hagen, 1875].
- Paraleptophlebia moerens* (McDunnough), 1924: **NS** [Harper and Harper (1981)]. **ON** [Walley (1927) as *Leptophlebia*]. **PQ** [McDunnough (1924a) as *Leptophlebia*, type]. **SA** [Lehmkuhl (1976a)]. **YU** [Harper and Harper (1981)].
- Paraleptophlebia mollis* (Eaton), 1871: **MB** [Friesen et al. (1980)]. **NB** [Petersen (1989)]. **NF** [Labrador: Walsh River, SW of Labrador City, Hwy 530, 11 June 1997, B.C. Kondratieff and R.W. Baumann (CSU); adults, Ashuanipi River, Hwy 500, W of Ross Bay junction, 12 June 1997, B.C. Kondratieff and R.W. Baumann (CSU); adults, Rapid Brook, Hwy 500, E of

- Churchill Falls, 13 June 1997, B.C. Kondratieff and R.W. Baumann (CSU)]. **NS** [Petersen et al. (1987)]. **ON** [McDunnough (1924a) as *Leptophlebia*]. **PE** [larvae and adults, Prince Co., Miminegash River, Hwy 151, 19 June 1993, B.C. Kondratieff and R.W. Baumann (CSU); adults, Kings Co., Morell River, Hwy 320, 20 June 1993, B.C. Kondratieff and R.W. Baumann (CSU)]. **PQ** [McDunnough (1924a) as *Leptophlebia*].
- Paraleptophlebia ontario* (McDunnough), 1926: **NB** [adult, Nepisiquit River, Hwy 360, 12 June 1992, M. Menet (CSU)]. **ON** [McDunnough (1926b) as *Leptophlebia*, type]. **PQ** [Harper and Harper (1982)].
- Paraleptophlebia praepedita* (Eaton), 1884: **AB** [Clifford and Boerger (1974)]. **MB** [McDunnough (1925a) as *Leptophlebia*]. **ON** [Clemens (1915) as *Leptophlebia*]. **PQ** [McDunnough (1925a, 1925b) as *Leptophlebia*]. **SA** [Lehmkuhl (1976a)].
- Paraleptophlebia rufivenosa* (Eaton), 1884: **BC** [McDunnough (1924b) as *Leptophlebia*].
- Paraleptophlebia strigula* (McDunnough), 1932: **NS** [Whiting (1992)]. **ON** [McDunnough (1932b) as *Leptophlebia*, type]. **PQ** [Dulude (1992)].
- Paraleptophlebia temporalis* (McDunnough), 1926: **AB** [Harper and Harper (1986)]. **BC** [McDunnough (1926b) as *Leptophlebia*, type].
- Paraleptophlebia vaciva* (Eaton), 1884: **BC** [Scudder (1975)].
- Paraleptophlebia volitans* (McDunnough), 1924: **NS** [Petersen et al. (1987)]. **ON** [McDunnough (1924a) as *Leptophlebia*]. **PQ** [McDunnough (1924a) as *Leptophlebia*, type].
- Traverella albertana* (McDunnough), 1931: **AB** [McDunnough (1931a) as *Thraululus*, type]. **SA** [McDunnough (1931a) as *Thraululus*].

METRETOPODIDAE

- Metretopus borealis* (Eaton), 1871: **AB** [McDunnough (1925a, 1925d) as *Metretopus norvegicus* Eaton, 1901; Berner (1978)]. **BC** [Edmunds (1957)]. **MB** [Edmunds (1957)]. **NB** [Berner (1978)]. **NW** [Wiens et al. (1975) as *Metretopus* sp.; Cobb and Flannagan (1980)]. **PQ** [Harper et al. (1975)]. **SA** [Lehmkuhl (1976a)]. **YU** [Harper and Harper (1981)].
- Siphloplecton basale* (Walker), 1853: **AB** [Clifford and Boerger (1974)]. **MB** [Walker (1853) as *Baetis*, type]. **NB** [McDunnough (1925a)]. **NF** [Labrador: adult, Walsh River, SW of Labrador City, Hwy 530, 11 June 1997, B.C. Kondratieff and R.W. Baumann (CSU); adult, Raft River, Hwy 500, 34 mi N of Churchill Falls, 12 June 1997, B.C. Kondratieff and R.W. Baumann (CSU)]. **ON** [Clemens (1913) as *Siphylurus flexus* Clemens, 1913, type; McDunnough (1925a)]. **PQ** [McDunnough (1925a)].
- Siphloplecton interlineatum* (Walsh), 1863: **AB** [Clifford and Boerger (1974)]. **MB** [McDunnough (1924a)]. **NW** [Wiens et al. (1975)]. **SA** [Lehmkuhl (1976a)].

NEOEPHEMERIDAE

- Neophemera bicolor* McDunnough, 1925: **ON** [Walley (1927)]. **PQ** [McDunnough (1925d), type].

OLIGONEURIIDAE

- Lachlania saskatchewanensis* Ide, 1941: **SA** [Ide (1941), type].

POLYMITARCYIDAE

- Ephoron album* (Say), 1824: **MB** [Say (1824) as *Baetis*, type]. **ON** [Barton and Hynes (1978)]. **SA** [Lehmkuhl (1976a)].
- Ephoron leukon* Williamson, 1802: **MB** [Gyselman (1980) misidentified as *Ephoron album* (Say), 1824]. **ON** [McDunnough (1926a)]. **PQ** [McDunnough (1926a)].
- Tortopus primus* (McDunnough), 1924: **MB** [Ide (1941) as *Campsurus manitobensis* Ide, 1941, type]. **SA** [Lehmkuhl (1976a)].

POTAMANTHIDAE

- Anthopotamus distinctus* (Traver), 1935: **NB** [Whiting (1992)]. **PQ** [Dulude (1992) as *Potamanthus*].
- Anthopotamus myops* (Walsh), 1863: **MB** [Bae and McCafferty (1991)]. **ON** [Ide (1935a) as *Potamanthus rufous* Argo, 1927; Bae and McCafferty (1991)].
- Anthopotamus verticis* (Say), 1839: **ON** [Eaton (1885) as *Ecdyurus*; McDunnough (1925a) as *Potamanthus diaphanus* Needham, 1907; Ide (1935a) as *Potamanthus flaveola* (Walsh), 1862; Ide (1935a) as *Potamanthus walkeri* Ide, 1935, type].

PSEUDIRONIDAE

- Pseudiron centralis* McDunnough, 1931: **AB** [Pescador (1985)]. **MB** [McDunnough (1931a)]. **ON** [Griffiths (1996) as unspecified species of *Pseudiron*; larva, Rainy River, July 1968, R.W. Griffiths (RWG)]. **SA** [Lehmkuhl (1976a)].

SIPHONURIDAE

- Parameletus chelifer* Bengtsson, 1908: **MB** [McDunnough (1938)]. **NW** [Harper and Harper (1981)].
- Parameletus columbiae* McDunnough, 1938: **BC** [McDunnough (1938), type].
- Parameletus croesus* (McDunnough), 1923: **ON** [McDunnough (1923) as *Siphonuroides*, type].
- Parameletus midas* (McDunnough), 1923: **MB** [Harper and Harper (1981)]. **NB** [adult, Gloucester Co., Nepisiquit River, Hwy 360, 17 June 1993, B.C. Kondratieff and R.W. Baumann (CSU)]. **ON** [McDunnough (1923) as *Siphonuroides*, type]. **PQ** [McDunnough (1930) as *Sparrea* sp.; McDunnough (1932a)].
- Siphonisca aerodromia* Needham, 1909: **NF** [Labrador: Fiance (1978)]. **PQ** [Magnin and Harper (1970) as unspecified species of *Siphonisca*; Hutchinson (1989)].
- Siphonurus alternatus* (Say), 1824: **AB** [Walley (1927)]. **MB** [Neave (1934)]. **NF** [Newfoundland Island: Larson and Colbo (1983)]. **NB** [adults, Nepisiquit River, Hwy 360, 12 June 1992, M. Menet (CSU)]. **NS** [Whiting (1992)]. **NW** [Say (1824) as *Baetis*, type; Wiens et al. (1975) as *Siphonurus* cf. *alternatus*; Harper and Harper (1981)]. **ON** [McDunnough (1925a)]. **PQ** [Provancher (1876) misidentified as *Baetis femorata* Say, 1824; Provancher (1878) as *Siphylurus*]. **SA** [Oliver (1960)]. **YU** [Harper and Harper (1997)].
- Siphonurus autumnalis* McDunnough, 1931: **AB** [McDunnough (1931a), type]. **BC** [McDunnough (1931a)].

- Siphonurus barbaroides* McDunnough, 1929: **NB** [Whiting (1992)]. **NF** [Labrador: Rapid Brook, Hwy 500, E of Churchill Falls, 13 June 1997, B.C. Kondratieff and R.W. Baumann (CSU)]. **NS** [Whiting (1992)]. **PQ** [McDunnough (1929), type].
- Siphonurus barbarus* McDunnough, 1924: **NS** [adults, Inverness Co., stream into Jack Gillis Brook, 3 June 1992, F. Reyes (CSU)]. **PQ** [McDunnough (1932a)].
- Siphonurus columbianus* McDunnough, 1925: **BC** [McDunnough (1925d), type].
- Siphonurus demaryi* Kondratieff and Voshell, 1981: **NB** [adult, Kennebecosis River, Rt 895, 3 June 1998, B.C. Kondratieff and R.W. Baumann (CSU)]. **NS** [Kondratieff and Voshell (1981), type].
- Siphonurus marshalli* Traver, 1934: **ON** [Williams and Hynes (1976)].
- Siphonurus mirus* (Eaton), 1885: **NS** [adult, Inverness Co., Broad Cove River, Hwy 19, Glenville, 21 June 1993, B.C. Kondratieff and R.W. Baumann (CSU); adults, Lunenburg Co., Gold River at New Ross, 23 June 1993, B.C. Kondratieff and R.W. Baumann (CSU)]. **PQ** [Dulude (1992) – no data; adults, Saguenay County, Riviere aux Loups Marins, above Route 138, 9 August 1982 (CSU)].
- Siphonurus occidentalis* (Eaton), 1885: **AB** [McDunnough (1925a); McDunnough (1931a) as *Siphonurus inflatus* McDunnough, 1931, type]. **BC** [McDunnough (1931a) as *Siphonurus inflatus* McDunnough, 1931]. **NW** [Wiens et al. (1975) as *Siphonurus occidentalis inflatus* McDunnough, 1931]. **YU** [Harper and Harper (1981)].
- Siphonurus phyllis* McDunnough, 1923: **AB** [McDunnough (1923), type]. **MB** [McDunnough (1925a)]. **NW** [Harper and Harper (1981)]. **ON** [Flannagan and Cobb (1995)]. **PQ** [McDunnough (1930)]. **YU** [Harper and Harper (1997)].
- Siphonurus quebecensis* (Provancher), 1878: **NB** [adults, Sunburg Co., Oromocto River, Hwy 101, Tracy, 12 June 1998, B.C. Kondratieff and R.W. Baumann (CSU); adults, Westmoreland Co., Cecogne River, Rt 126, 12 June 1998, B.C. Kondratieff and R.W. Baumann (CSU)]. **NF** [Newfoundland Island: Larson and Colbo (1983). Labrador: adults, Trout River, Hwy 510 N of Pinware, 6 June 1998, B.C. Kondratieff and R.W. Baumann (CSU)]. **NS** [adults, Colchester Co., Waughs River, The Falls, Hwy 256, 3 June 1998, B.C. Kondratieff and R.W. Baumann (CSU)]. **ON** [McDunnough (1925a)]. **PQ** [Provancher (1876) misidentified as *Baetis canadensis* Walker, 1853; Provancher (1978) as *Siphonurus*, type].
- Siphonurus rapidus* McDunnough, 1924: **NB** [adults, York Co., Pokiok Stream, Hwy 635 below Lake George, 15 June 1993, B.C. Kondratieff and R.W. Baumann (CSU); adults, tributary of Tantrama River, N of Sackville, 18 June 1993, B.C. Kondratieff and R.W. Baumann (CSU); adults, Cunningham Creek, Hwy 7, NW of Nerepsis, 25 June 1993, B.C. Kondratieff and R.W. Baumann (CSU)]. **NF** [Labrador, adults, Ashuanipi River, Hwy 500, W of Ross Bay junction, 12 June 1997, B.C. Kondratieff and R.W. Baumann (CSU)]. **NS** [adult, Cochester Co., Waughs River, The Falls, Hwy 256, 3 June 1998, B.C. Kondratieff and R.W. Baumann (CSU)]. **ON** [Walley (1927)]. **PQ** [McDunnough (1929)].
- Siphonurus securifer* McDunnough, 1926: **ON** [McDunnough (1926b), type]. **PQ** [Dulude (1992)].
- Siphonurus spectabilis* Traver, 1934: **NW** [Cobb and Flannagan (1980)].
- Siphonurus typicus* (Eaton), 1885: **NF** [Labrador: Walley (1927) as *Siphonurus bernice* [sic] McDunnough, 1923]. **NS** [adults, Kings Co., Butler Lake Brook, below Burke Lake, 23 June 1993, B.C. Kondratieff and R.W. Baumann (CSU)]. **ON** [Walley (1927) as *Siphonurus bernice* [sic] McDunnough, 1923; Giberson and Mackay (1991)]. **PQ** [McDunnough (1923) as *Siphonurus berenice* McDunnough, 1923, type; Harper and Harper (1982)].

CHECKLISTS

Footnotes to species:

- ¹ New record for the province or territory.
- ² New Canadian record.
- ³ Originally described from the province or territory.
- ⁴ Endemic to province or territory.
- ⁵ Endemic to Canada.
- ⁶ Also found elsewhere in Canada.
- ⁷ Also found in Palearctic.
- ⁸ Also found in the conterminous United States.
- ⁹ Also found in Alaska.

ALBERTA

ACANTHAMETROPODIDAE

Analetris eximia^{6,8}

AMELETIDAE

Ameletus bellulus^{3,8}, *celer*^{3,6,8}, *cookii*^{6,8}, *majusculus*^{3,8}, *oregonensis*^{6,8}, *pritchardi*^{3,5,6}, *similior*^{3,6,8},
sparsatus^{3,6,8}, *subnotatus*^{6,8}, *suffusus*^{5,6}, *validus*^{3,6,8,9}, *velox*^{6,8}, *vernalis*^{6,8}

AMETROPODIDAE

Ametropus neavei^{3,6,8}

BAETIDAE

Acentrella insignificans^{6,8}, *turbida*^{3,6,8}
Acerpenna akataleptos^{3,4,5}
Baetis bicaudatus^{6,7,8,9}, *moiffatti*^{6,8}, *parallelus*^{6,8}, *persecutor*^{5,6}, *tricaudatus*^{6,8,9}
Callibaetis ferrugineus^{6,8}, *pallidus*^{6,8}
Centroptilum bifurcatum^{3,6,8}, *conturbatum*^{3,6,8}
Dipheter hageni^{6,8}
Plauditus armillatus^{6,8}, *dubius*^{6,8}, *futilis*^{3,4,5}, *rubrolateralis*^{3,4,5},
Procloeon implicatum^{3,6,8}, *in anum*^{3,5,6}, *ingens*^{3,6,8}, *pennulatum*^{6,7,8}, *quaesitum*^{3,6,8}

BAETISCIDAE

Baetisca lacustris^{6,8}, *laurentina*^{6,8}, *obesa*^{6,8}

CAENIDAE

Caenis amica^{6,8}, *latipennis*^{6,8}, *tardata*^{3,6,8}, *youngi*^{6,8}

EPHEMERELLIDAE

Attenella margarita^{6,8}
Drunella coloradensis^{6,8,9}, *doddsi*^{6,8,9}, *flavilinea*^{3,6,8}, *grandis*^{6,8,9}, *spinifera*^{6,8}
Ephemerella aurivillii^{6,7,8,9}, *inermis*^{6,8}, *infrequens*^{3,6,8,9}
Serratella tibialis^{3,6,8,9}
Timpanoga hecuba^{6,8}, *simplex*^{6,8}

EPHEMERIDAE

Ephemera simulans^{6,8}

Hexagenia limbata^{6,8}

HEPTAGENIIDAE

Acanthomola pubescens^{5,6}

Cinygma lyriforme^{3,7,8,9}

Cinygmula confusa^{3,4,5}, *mimus*^{6,8}, *par*^{6,8,9}, *ramaleyi*^{6,8}, *tarda*^{3,6,8}

Epeorus albertae^{3,6,8}, *deceptivus*^{3,6,8}, *grandis*^{3,6,8}, *longimanus*^{6,8,9}

Heptagenia adaequata^{3,5,6}, *solitaria*^{3,6,8}

*Nixe criddlei*⁸, *simplicoides*^{3,6,7,8}

Rhithrogena futilis^{3,6,8,9}, *hageni*^{3,6,8}, *jejuna*^{6,8}, *morrisoni*^{6,8}, *robusta*^{6,8}, *virilis*^{5,6}

Stenacron interpunctatum^{6,8}

Stenonema terminatum^{6,8}, *vicarium*^{6,8}

ISONYCHIIDAE

Isonychia campestris^{3,6,8}

LEPTOHYPHIDAE

Tricorythodes minutus^{6,8}

LEPTOPHLEBIIDAE

Choroterpes albiannulata^{3,6,8}

Leptophlebia cupida^{6,8}, *nebulosa*^{6,8}

Paraleptophlebia bicornuta^{3,6,8}, *debilis*^{6,8}, *heteronea*^{3,6,8}, *memorialis*^{6,8}, *praepedita*^{6,8}, *temporalis*^{6,8}

Traverella albertana^{3,6,8}

METRETOPODIDAE

Metretopus borealis^{6,7,8}

Siphloplecton basale^{6,8}, *interlineatum*^{6,8}

PSEUDIRONIDAE

Pseudiron centralis^{6,8}

SIPHONURIDAE

Siphonurus alternatus^{6,7,8}, *autumnalis*^{3,6,8}, *occidentalis*^{6,8}, *phyllis*^{3,5,6}

BRITISH COLUMBIA

AMELETIDAE

Ameletus celer^{6,8}, *cooki*^{6,8}, *oregonensis*^{6,8}, *pritchardi*^{5,6}, *shepherd*^{3,8}, *similior*^{6,8}, *sparsatus*^{6,8},
subnotatus^{6,8}, *suffusus*^{3,5,6}, *validus*^{6,8}, *vancouverensis*^{3,8}, *velox*^{6,8}, *vernalis*^{3,6,8}

BAETIDAE

Acentrella insignificans^{3,6,8}, *turbida*^{6,8}

Baetis bicaudatus^{6,7,8,9}, *bundyae*^{1,6,7,9}, *moffatti*^{6,8}, *parallelus*^{6,8}, *persecutor*^{3,5,6}, *tricaudatus*^{6,8,9}

Callibaetis ferrugineus^{6,8}

Centroptilum album^{6,8}, *bifurcatum*^{6,8}, *conturbatum*^{6,8}

Dipheter hageni^{6,8}
Procloeon bellum^{6,8}, *implicatum*^{6,8}

CAENIDAE

Caenis amica^{6,8}

EPHEMERELLIDAE

Attenella margarita^{1,6,8}
*Caudatella heterocaudata*⁸, *hystrix*⁸, *jacobi*^{3,8}
Drunella coloradensis^{6,8,9}, *doddsi*^{6,8,9}, *flavilinea*^{6,8}, *grandis*^{6,8,9}, *pelosa*⁸, *spinifera*^{3,6,8}
Ephemerella aurivillii^{6,7,8,9}, *inermis*^{6,8}, *infrequens*^{6,8,9}
*Eurylophella lodi*⁸
*Serratella teresa*⁸, *tibialis*^{6,8,9}
Timpanoga hecuba^{6,8}

EPHEMERIDAE

Ephemerella simulans^{6,8}
Hexagenia limbata^{6,8}

HEPTAGENIIDAE

*Cinygma integrum*⁸
Cinygmula gartrelli^{3,4,5}, *kootenai*^{3,8}, *mimus*^{6,8}, *par*^{6,8,9}, *ramaleyi*^{6,8}, *uniformis*^{3,6,8}
Epeorus albertae^{6,8}, *deceptivus*^{6,8}, *dulciana*^{3,8}, *grandis*^{6,8}, *longimanus*^{6,8,9}, *permagnus*⁸
Heptagenia elegantula^{6,8}, *flavescens*^{6,8}, *solitaria*^{6,8}
*Ironodes arctus*⁸, *flavipennis*^{3,4,5}, *nitidus*⁸
Nixe simplicioides^{6,7,8}
Rhithrogena hageni^{6,8}, *jejuna*^{6,8}, *morrisoni*^{6,8}, *robusta*^{6,8}, *virilis*^{3,5}
Stenonema terminatum^{6,8}

LEPTOHYPHIDAE

Tricorythodes minutus^{6,8}

LEPTOPHLEBIIDAE

Leptophlebia cupida^{6,8}, *gravastella*⁸, *nebulosa*^{6,8}
Paraleptophlebia bicornuta^{6,8}, *brunneipennis*⁸, *debilis*^{6,8}, *gregalis*⁸, *heteronea*^{6,8}, *memorialis*^{6,8},
*rufivenosa*⁸, *temporalis*^{3,6,8}, *vaciva*⁸

METREPODIDAE

Metretopus borealis^{6,7,8}

SIPHONURIDAE

Parameletus columbiae^{3,8}
Siphonurus autumnalis^{6,8}, *columbianus*^{3,8}, *occidentalis*^{6,8}

MANITOBA

AMELETIDAE

Ameletus subnotatus^{6,8}

BAETIDAE

Acentrella turbida^{6,8}

Acerpenna pygmaea^{6,8}

Baetis brunneicolor^{6,8}, *bundyae*^{6,7,9}, *flavistriga*^{6,8}, *hudsonicus*^{3,5,6}, *intercalaris*^{6,8}, *pluto*^{6,8}, *tricaudatus*^{6,8,9}

Callibaetis ferrugineus^{6,8}, *fluctuans*^{6,8}, *pallidus*^{6,8}

Centroptilum album^{6,8}, *bifurcatum*^{6,8}, *conturbatum*^{6,8}, *victoriae*^{5,6}

Dipheteron hageni^{6,8}

Fallceon quilleri^{6,8}

Labiobaetis dardanus^{3,6,8}, *propinquus*^{6,8}

Plauditus armillatus^{6,8}, *dubius*^{6,8}, *punctiventris*^{6,8}

Procloeon convexum^{6,8}, *inanum*^{5,6}, *ingens*^{6,8}, *irrubrum*^{3,4,5}, *pennulatum*^{6,7,8}, *quaesitum*^{6,8}, *rubropictum*^{6,8}, *rufostrigatum*^{3,6,8}, *walshi*⁸

BAETISCIDAE

Baetisca lacustris^{6,8}, *laurentina*^{6,8}, *obesa*^{6,8}

CAENIDAE

Caenis amica^{6,8}, *latipennis*^{6,8}, *tardata*^{6,8}

EPHEMERELLIDAE

Ephemerella invaria^{6,8}

Eurylophella bicolor^{6,8}, *temporalis*^{6,8}

Timpanoga simplex^{6,8}

EPHEMERIDAE

Ephemera simulans^{6,8}

Hexagenia bilineata^{6,8}, *limbata*^{6,8}, *rigida*^{6,8}

Pentagenia vittigera^{6,8}

HEPTAGENIIDAE

Epeorus albertae^{6,8}, *vitreus*^{6,8}

Heptagenia elegantula^{6,8}, *flavescens*^{6,8}, *pulla*^{6,8}

Leucrocota aphrodite^{6,8}, *hebe*^{6,8}, *jewetti*⁸, *maculipennis*^{6,8}, *umbratica*^{6,8}

Nixe inconspicua^{3,6,8}, *simplicioides*^{6,7,8}

Raptoheptagenia cruentata^{6,8}

Rhithrogena pellucida^{6,8}

Stenacron gildersleevei^{1,2,8}, *interpunctatum*^{6,8}

Stenonema femoratum^{6,8}, *mediopunctatum*^{6,8}, *mexicanum*^{6,8}, *terminatum*^{6,8}, *vicarium*^{6,8}

ISONYCHIIDAE

Isonychia bicolor^{6,8}, *campestris*^{6,8}, *rufa*⁸, *sicca*^{6,8}

LEPTOHYPHIDAE

Tricorythodes allectus^{6,8}, *cobbi*^{3,4,5}, *mosegus*^{3,4,5}

LEPTOPHLEBIIDAE

Leptophlebia cupida^{6,8}, *nebulosa*^{6,8}

Paraleptophlebia debilis^{6,8}, *mollis*^{6,8}, *praepedita*^{6,8}

METRETOPODIDAE

Metretopus borealis^{6,7,8}

Siphloplecton basale^{3,6,8}, *interlineatum*^{6,8}

POLYMITARCYIDAE

Ephoron album^{3,6,8}, *leukon*^{1,6,8}

Tortopus primus^{6,8}

POTAMANTHIDAE

Anthopotamus myops^{6,8}

PSEUDIRONIDAE

Pseudiron centralis^{6,8}

SIPHLONURIDAE

Parametetus chelifera^{6,7,9}, *midas*^{5,6}

Siphonurus alternatus^{6,7,8}, *phyllis*^{5,6}

NEW BRUNSWICK

AMELETIDAE

Ameletus subnotatus^{6,8}

ARTHROPLEIDAE

Arthroplea bipunctata^{6,8}

BAETIDAE

Acentrella turbida^{1,6,8}

Acerpenna macdunnoughi^{6,8}, *pygmaea*^{6,8}

Baetis brunneicolor^{6,8}, *flavistriga*^{6,8}, *intercalaris*^{6,8}, *pluto*^{6,8}, *rusticans*^{6,8}, *tricaudatus*^{6,8,9}

Callibaetis ferrugineus^{6,8}

Centroptilum album^{6,8}

Diphetor hageni^{6,8}

Heterocloeon curiosum^{6,8}

Labiobaetis propinquus^{1,6,8}

Plauditus punctiventris^{6,8}

Procloeon bellum^{1,6,8}, *pennulatum*^{1,6,7,8}, *rubropictum*^{1,6,8}, *rufostrigatum*^{6,8}

BAETISCIDAE

Baetisca laurentina^{6,8}

CAENIDAE

Caenis amica^{6,8}, *latipennis*^{6,8}

EPHEMERELLIDAE

Attenella attenuata^{6,8}, *margarita*^{6,8}

Drunella cornuta^{6,8}, *cornutella*^{6,8}, *lata*^{6,8}, *tuberculata*^{6,8}, *walkeri*^{6,8}
Ephemerella aurivillii^{6,7,8,9}, *dorothea*^{6,8}, *excrucians*^{6,8}, *invaria*^{6,8}, *needhami*^{6,8}, *rotunda*^{6,8},
septentrionalis^{6,8}, *subvaria*^{6,8}
Eurylophella aestiva^{6,8}, *bicolor*^{6,8}, *funeralis*^{6,8}, *lutulenta*^{6,8}, *minimella*^{6,8}, *prudentialis*^{6,8}, *temporalis*^{6,8},
verisimilis^{6,8}
Serratella deficiens^{6,8}, *molita*^{5,6}, *serrata*^{6,8}, *serratoidea*^{6,8}
Timpanoga simplex^{6,8}

EPHEMERIDAE

Ephemerella guttulata^{1,6,8}, *simulans*^{1,6,8}
Hexagenia limbata^{6,8}, *rigida*^{6,8}

HEPTAGENIIDAE

Cinygmula subaequalis^{6,8,9}
Epeorus pleuralis^{6,8}, *vitreus*^{6,8}
Heptagenia pulla^{1,6,8}
Leucrocota hebe^{6,8}
Rhithrogena impersonata^{6,8}, *jejuna*^{6,8}
Stenacron interpunctatum^{6,8}
Stenonema femoratum^{6,8}, *luteum*^{6,8}, *mediopunctatum*^{6,8}, *modestum*^{6,8}, *vicarium*^{6,8}

ISONYCHIIDAE

Isonychia bicolor^{1,6,8}

LEPTOHYPHIDAE

Tricorythodes allectus^{6,8}

LEPTOPHLEBIIDAE

Habrophlebia vibrans^{6,8}
Habrophlebiodes americana^{6,8}
Leptophlebia cupida^{6,8}, *nebulosa*^{6,8}
Paraleptophlebia adoptiva^{6,8}, *debilis*^{1,6,8}, *guttata*^{6,8}, *mollis*^{6,8}, *ontario*^{1,6,8}

METRETOPODIDAE

Metretopus borealis^{6,7,8}
Siphloplecton basale^{6,8}

POTAMANTHIDAE

Anthopotamus distinctus^{6,8}

SIPHONURIDAE

Parameletus midas^{1,5,6}
Siphonurus alternatus^{1,6,7,8}, *barbaroides*^{6,8}, *demaryi*^{1,6,8}, *quebecensis*^{1,6,8}, *rapidus*^{1,6,8}

NEWFOUNDLAND (ISLAND)

AMELETIDAE

Ameletus subnotatus^{6,8}

BAETIDAE

Acerpenna macdunnoughi^{6,8}, *pygmaea*^{6,8}
Baetis flavistriga^{6,8}, *tricaudatus*^{6,8,9}
Callibaetis ferrugineus^{6,8}, *pallidus*^{1,6,8}
Procloeon convexum^{6,8}

CAENIDAE

Caenis amica^{6,8}

EPHEMERELLIDAE

Drunella cornuta^{1,6,8}
Ephemerella aurivillii^{6,7,8,9}, *invaria*^{1,6,8}, *subvaria*^{6,8}
Eurylophella funeralis^{6,8}, *prudentialis*^{6,8}

HEPTAGENIIDAE

Epeorus pleuralis^{6,8}
Heptagenia pulla^{6,8}
Rhithrogena undulata^{6,8}
Stenonema femoratum^{6,8}, *vicarium*^{6,8}

LEPTOHYPHIDAE

Tricorythodes allectus^{6,8}

LEPTOPHLEBIIDAE

Habrophlebia vibrans^{6,8}
Leptophlebia cupida^{6,8}
Paraleptophlebia adoptiva^{6,8}, *debilis*^{6,8}

SIPHONURIDAE

Siphonurus alternatus^{6,7,8}, *quebecensis*^{6,8}

NEWFOUNDLAND (LABRADOR)
 (Footnote 10 = new Labrador record only)

AMELETIDAE

Ameletus tertius^{1,6,8}

BAETIDAE

Acentrella lapponica^{6,7,9}
Acerpenna macdunnoughi^{6,8,10}
Baetis bundyae^{6,7,9}, *tricaudatus*^{6,8,9,10}

BAETISCIDAE

Baetisca laurentina^{1,6,8}, *rubescens*^{1,6,8}

EPHEMERELLIDAE

Drunella cornutella^{1,6,8}
Ephemerella aurivillii^{6,7,8,9,10}, *invaria*^{1,6,8}, *subvaria*^{6,8,10}

Serratella deficiens^{1,6,8}

EPHEMERIDAE

Ephemera guttulata^{1,6,8}

Litobrantha recurvata^{1,6,8}

HEPTAGENIIDAE

Epeorus pleuralis^{6,8,10}

Rhithrogena jejuna^{6,8}

Stenacron interpunctatum^{1,6,8}

Stenonema terminatum^{1,6,8}, *vicarium*^{6,8,10}

ISONYCHIIDAE

Isonychia bicolor^{1,6,8}

LEPTOPHLEBIIDAE

Leptophlebia cupida^{6,8,10}

Paraleptophlebia mollis^{1,6,8}

METRETOPODIDAE

Siphloplecton basale^{1,6,8}

SIPHONURIDAE

Siphonisca aerodromia^{6,8}

Siphonurus barbaroides^{1,6,8}, *quebecensis*^{6,8,10}, *rapidus*^{1,6,8}, *typicus*^{6,8}

NORTHWEST TERRITORIES

AMELETIDAE

*Ameletus inopinatus*⁷, *sparsatus*^{1,6,8}

AMETROPODIDAE

Ametropus neavei^{6,8}

ARTHROPLEIDAE

Arthroplea bipunctata^{6,8}

BAETIDAE

Acentrella insignificans^{6,8}, *lapponica*^{6,7,9}

Acerpenna pygmaea^{6,8}

Baetis bicaudatus^{6,7,8,9}, *bundya*^{3,6,7,9}, *flavistriga*^{6,8}, *foemina*^{3,4,5}, *tricaudatus*^{6,8,9}

Callibaetis ferrugineus^{6,8}

Dipheter hageni^{6,8}

Procloeon pennulatum^{6,7,8}

BAETISCIDAE

Baetisca laurentina^{6,8}, *obesa*^{6,8}

CAENIDAE

Caenis youngi^{6,8}

EPHEMERELLIDAE

Drunella coloradensis^{6,8,9}, *doddsi*^{6,8,9}

Ephemerella aurivillii^{6,7,8,9}, *excrucians*^{6,8}, *inermis*^{6,8}, *invaria*^{6,8}, *mucronata*^{6,7}

Eurylophella bicolor^{6,8}, *temporalis*^{6,8}

Serratella tibialis^{6,8,9}

Timpanoga simplex^{6,8}

EPHEMERIDAE

Ephemera simulans^{6,8}

Hexagenia limbata^{6,8}

HEPTAGENIIDAE

Cinygmula tarda^{6,8}

Epeorus deceptivus^{6,8}, *grandis*^{6,8}, *longimanus*^{6,8,9}

Heptagenia flavescens^{6,8}, *pulla*^{6,8}

Leucrocuta hebe^{6,8}, *maculipennis*^{6,8}

Rhithrogena jejuna^{6,8}, *undulata*^{6,8}

Stenonema femoratum^{6,8}, *vicarium*^{6,8}

LEPTOPHLEBIIDAE

Leptophlebia nebulosa^{6,8}

Paraleptophlebia guttata^{6,8}

METRETOPODIDAE

Metretopus borealis^{6,8}

Siphloplecton interlineatum^{6,8}

SIPHONURIDAE

Parameletus chelifera^{6,7,9}

Siphonurus alternatus^{3,6,7,8}, *occidentalis*^{6,8}, *phyllis*^{5,6}, *spectabilis*⁸

NOVA SCOTIA

AMELETIDAE

Ameletus tertius^{3,6,8}

ARTHROPLEIDAE

Arthroplea bipunctata^{6,8}

BAETIDAE

Acerpenna macdunnoughi^{6,8}, *pygmaea*^{6,8}

Baetis brunneicolor^{6,8}, *flavistriga*^{6,8}, *intercalaris*^{6,8}, *pluto*^{6,8}, *tricaudatus*^{6,8,9}

Callibaetis ferrugineus^{6,8}

Centroptilum victoriae^{3,5,6}

Dipheter hageni^{1,6,8}

Labiobaetis frondalis^{6,8}, *propinquus*^{6,8}

Plauditus punctiventris^{6,8}

Procloeon bellum^{1,6,8}, *rivulare*^{1,2,8}, *rubropictum*^{6,8}, *rufostrigatum*^{6,8}

BAETISCIDAE

Baetisca laurentina^{6,8}

CAENIDAE

Brachycercus lacustris^{1,6,8}

Caenis diminuta^{6,8}

EPHEMERELLIDAE

Attenella attenuata^{6,8}, *margarita*^{6,8}

Drunella cornuta^{6,8}, *cornutella*^{6,8}, *lata*^{6,8}, *tuberculata*^{6,8}, *walkeri*^{6,8}

Ephemerella aurivillii^{6,7,8,9}, *dorothea*^{6,8}, *excrucians*^{6,8}, *invaria*^{6,8}, *needhami*^{6,8}, *rotunda*^{6,8}, *subvaria*^{6,8}

Eurylophella aestiva^{6,8}, *bicolor*^{6,8}, *bicoloroides*^{3,8}, *coxalis*^{6,8}, *funeralis*^{6,8}, *minimella*^{6,8}, *prudentialis*^{6,8},
temporalis^{6,8}, *verisimilis*^{6,8}

Serratella deficiens^{6,8}, *molita*^{5,6}, *serrata*^{6,8}, *serratoides*^{6,8}

Timpanoga simplex^{6,8}

EPHEMERIDAE

Ephemera guttulata^{1,6,8}, *simulans*^{6,8}, *varia*^{1,6,8}

Hexagenia rigida^{1,6,8}

HEPTAGENIIDAE

Cinygmula subaequalis^{6,8,9}

Epeorus fragilis^{6,8}, *pleuralis*^{6,8}, *vitreus*^{6,8}

Heptagenia pulla^{6,8}

Leucrocuta hebe^{6,8}

Rhithrogena impersonata^{6,8}, *jejuna*^{6,8}

Stenacron interpunctatum^{6,8}

Stenonema femoratum^{6,8}, *luteum*^{6,8}, *modestum*^{6,8}, *terminatum*^{1,6,8}, *vicarium*^{6,8}

ISONYCHIIDAE

Isonychia bicolor^{1,6,8}

LEPTOPHLEBIIDAE

Habrophlebia vibrans^{6,8}

Leptophlebia cupida^{6,8}, *nebulosa*^{1,6,8}

Paraleptophlebia adoptiva^{6,8}, *debilis*^{6,8}, *guttata*^{6,8}, *moerens*^{6,8}, *mollis*^{6,8}, *strigula*^{6,8}, *volitans*^{6,8}

SIPHLONURIDAE

Siphonurus alternatus^{6,7,8}, *barbaroides*^{6,8}, *barbarus*^{1,6,8}, *demaryi*^{3,6,8}, *mirus*^{1,6,8}, *quebecensis*^{1,6,8},
rapidus^{1,6,8}, *typicus*^{1,6,8}

ONTARIO

AMELETIDAE

Ameletus ludens^{6,8}, *subnotatus*^{6,8}, *walleyi*^{3,4,5}

ARTHROPLEIDAE

Arthroplea bipunctata^{6,8}

BAETIDAE

Acentrella turbida^{6,8}

Acerpenna macdunnoughi^{6,8}, *pygmaea*^{6,8}

Baetis brunneicolor^{3,6,8}, *flavistriga*^{3,6,8}, *hudsonicus*^{1,5,6}, *intercalaris*^{6,8}, *pluto*^{6,8}, *rusticans*^{6,8}, *tricaudatus*^{8,9}

Callibaetis ferrugineus^{6,8}, *fluctuans*^{6,8}, *pretiosus*⁸, *skokianus*^{6,8}

Centroptilum album^{3,6,8}, *bifurcatum*^{1,6,8}, *minor*^{3,8}, *semirufum*^{3,6,8}, *triangulifer*^{3,6,8}, *victoriae*^{5,6}

Dipheter hageni^{6,8}

Heterocloeon curiosum^{3,6,8}, *frivolum*^{6,8}

Labiobaetis dardanus^{6,8}, *frondalis*^{6,8}, *longipalpus*⁸, *propinquus*^{6,8}

Plautidus armillatus^{3,6,8}, *cestus*^{1,2,8}, *cinctutus*^{6,8}, *dubius*^{6,8}, *punctiventris*^{3,6,8}, *virilis*^{3,6,8}

Procloeon bellum^{6,8}, *convexum*^{3,6,8}, *fragile*^{3,6,8}, *insignificans*^{3,4,5}, *mendax*⁸, *ozburni*^{6,8}, *rubropictum*^{3,6,8}, *simile*^{6,8}, *simplex*^{6,8}, *viridoculare*^{1,2,8}

BAETISCIDAE

Baetisca lacustris^{3,6,8}, *laurentina*^{6,8}, *obesa*^{6,8}

CAENIDAE

Brachycercus lacustris^{6,8}

Caenis amica^{6,8}, *diminuta*^{6,8}, *hilaris*⁸, *latipennis*^{6,8}, *punctata*^{6,8}, *youngi*^{1,6,8}

EPHEMERELLIDAE

Attenella attenuata^{6,8}

Drunella cornuta^{6,8}, *tuberculata*^{6,8}, *walkeri*^{3,6,8}

Ephemerella aurivillii^{6,8,9}, *excrucians*^{6,8}, *invaria*^{3,6,8}, *needhami*^{6,8}, *rotunda*^{6,8}, *septentrionalis*^{3,6,8}, *subvaria*^{6,8}

Eurylophella aestiva^{6,8}, *bartoni*^{3,4,5}, *bicolor*^{3,6,8}, *coxalis*^{6,8}, *enoensis*⁸, *funeralis*^{6,8}, *lutulenta*^{3,6,8}, *minimella*^{6,8}, *prudentialis*^{6,8}, *temporalis*^{3,6,8}, *verisimilis*^{6,8}

Serratella deficiens^{6,8}, *serrata*^{6,8}, *serratoides*^{6,8}, *sordida*^{6,8}

Timpanoga simplex^{6,8}

EPHEMERIDAE

Ephemera guttulata^{6,8}, *simulans*^{6,8}, *varia*^{6,8}

Hexagenia atrocaudata^{3,8}, *bilineata*^{6,8}, *limbata*^{6,8}, *rigida*^{3,6,8}

Litobrancha recurvata^{6,8}

Pentagenia vittigera^{1,6,8}

HEPTAGENIIDAE

Anepeorus simplex^{1,2,8}

Epeorus albertae^{1,6,8}, *pleuralis*^{6,8}, *punctatus*^{3,6,8}, *suffusus*^{6,8}, *vitreus*^{3,6,8}

Heptagenia diabasial^{1,6,8}, *flavescens*^{6,8}, *marginalis*^{6,8}, *pulla*^{3,6,8}
Leucocuta aphrodite^{6,8}, *hebe*^{6,8}, *juno*^{6,8}, *maculipennis*^{6,8}, *minerva*^{6,8}, *walshi*^{3,6,8}
Nixe horrida^{3,4,5}, *inconspicua*^{6,8}, *lucidipennis*^{3,6,8}, *perfida*^{3,8}
Rhithrogena impersonata^{6,8}, *jejuna*^{3,6,8}, *pellucida*^{1,6,8}
Stenacron candidum^{6,8}, *carolina*^{6,8}, *interpunctatum*^{3,6,8}
*Stenonema exiguum*⁸, *femoratum*^{6,8}, *flaveolum nomen dubium*⁸, *ithaca*^{6,8}, *luteum*^{3,6,8},
mediopunctatum^{3,6,8}, *mexicanum*^{6,8}, *modestum*^{6,8}, *pulchellum*^{6,8}, *terminatum*^{6,8}, *vicarium*^{6,8}

ISONYCHIIDAE

Isonychia bicolor^{3,6,8}, *sicca*^{6,8}

LEPTOHYPHIDAE

Tricorythodes allectus^{6,8}, *minutus*^{6,8}

LEPTOPHLEBIIDAE

Choroterpes basalis^{6,8}
Habrophlebia vibrans^{6,8}
Habrophlebiodes americana^{6,8}
Leptophlebia cupida^{6,8}, *johnsoni*^{6,8}, *nebulosa*^{3,6,8}
Praleptophlebia adoptiva^{6,8}, *debilis*^{6,8}, *guttata*^{6,8}, *moerens*^{6,8}, *mollis*^{6,8}, *ontario*^{3,6,8}, *praepedita*^{6,8},
strigula^{3,6,8}, *volitans*^{6,8}

METRETOPODIDAE

Siphloplecton basale^{6,8}

NEOEPHEMERIDAE

Neoephemera bicolor^{6,8}

POLYMITARCYIDAE

Ephoron album^{6,8}, *leukon*^{6,8}

POTAMANTHIDAE

Anthopotamus myops^{6,8}, *verticis*⁸

PSEUDIRONIDAE

Pseudiron centralis^{1,6,8}

SIPHONURIDAE

Parameletus croesus^{3,4,5}, *midas*^{3,5,6}
Siphonurus alternatus^{6,7,8}, *marshalli*⁸, *phyllis*^{5,6}, *quebecensis*^{6,8}, *rapidus*^{6,8}, *securifer*^{3,6,8}, *typicus*^{6,8}

PRINCE EDWARD ISLAND

BAETIDAE

Baetis brunneicolor^{1,6,8}, *flavistriga*^{1,6,8}, *tricaudatus*^{1,6,8,9}
Callibaetis ferrugineus^{1,6,8}

EPHEMERELLIDAE

Ephemerella aurivillii^{1,6,8,9}, *dorothea*^{1,6,8}, *invaria*^{6,8}

HEPTAGENIIDAE

Cinygmula subaequalis^{1,6,8,9}

Epeorus pleuralis^{1,6,8}

Stenacron interpunctatum^{1,6,8}

Stenonema terminatum^{1,6,8}, *vicarium*^{1,6,8}

LEPTOPHLEBIIDAE

Leptophlebia cupida^{1,6,8}

Paraleptophlebia mollis^{1,6,8}

QUEBEC

AMELETIDAE

Ameletus browni^{3,8}, *lineatus*⁸, *ludens*^{6,8}, *subnotatus*^{6,8}, *tertius*^{6,8}

ARTHROPLEIDAE

Arthroplea bipunctata^{6,8}

BAETIDAE

Acentrella lapponica^{6,7,9}, *turbida*^{6,8}

Acerpenna macdunnoughi^{3,6,8}, *pygmaea*^{3,6,8}

Baetis brunneicolor^{6,8}, *bundyae*^{6,7,9}, *flavistriga*^{6,8}, *intercalaris*^{6,8}, *pluto*^{3,6,8}, *rusticans*^{3,6,8}, *tricaudatus*^{6,8,9}

Callibaetis ferrugineus^{6,8}, *fluctuans*^{6,8}, *skokianus*^{6,8}

Centroptilum album^{6,8}, *semirufum*^{6,8}, *triangulifer*^{6,8}

Diphetor hageni^{6,8}

Heterocloeon curiosum^{6,8}, *frivolum*^{3,6,8}

Labiobaetis dardanus^{6,8}, *frondalis*^{3,6,8}, *propinquus*^{6,8}

Plauditus armillatus^{6,8}, *cinctus*^{3,6,8}, *dubius*^{6,8}, *punctiventris*^{6,8}, *virilis*^{6,8}

Procloeon bellum^{3,6,8}, *caliginosum*^{3,8}, *fragile*^{6,8}, *ingens*^{6,8}, *intermediale*^{3,8}, *ozburni*^{3,6,8}, *rubropictum*^{6,8}, *rufostrigatum*^{6,8}, *simile*^{3,6,8}, *simplex*^{3,6,8}

BAETISCIDAE

Baetisca callosa nomen dubium⁸, *carolina*⁸, *lacustris*^{6,8}, *laurentina*^{3,6,8}, *rubescens*^{3,6,8}

CAENIDAE

*Brachycercus flavus*⁸, *lacustris*^{6,8}

Caenis amica^{6,8}, *candida*^{3,4,5}, *diminuta*^{6,8}, *latipennis*^{6,8}, *punctata*^{3,6,8}

EPHEMERELLIDAE

Attenella attenuata^{3,6,8}

Drunella cornuta^{6,8}, *cornutella*^{3,6,8}, *lata*^{3,6,8}, *tuberculata*^{6,8}, *walkeri*^{6,8}

Ephemerella aurivillii^{6,7,8,9}, *dorothea*^{6,8}, *excrucians*^{6,8}, *fratercula*^{3,4,5}, *invaria*^{6,8}, *needhami*^{3,6,8}, *quebecensis*^{3,4,5}, *rotunda*^{6,8}, *septentrionalis*^{6,8}, *subvaria*^{3,6,8}

Eurylophella aestiva^{3,6,8}, *bicolor*^{6,8}, *coxalis*^{3,6,8}, *funeralis*^{3,6,8}, *lutulenta*^{6,8}, *minimella*^{3,6,8}, *prudentialis*^{3,6,8},
temporalis^{6,8}, *verisimilis*^{3,6,8}
Serratella deficiens^{6,8}, *molita*^{3,5,6}, *serrata*^{6,8}, *serratoides*^{3,6,8}, *sordida*^{3,6,8}
Timpanoga simplex^{3,6,8}

EPHEMERIDAE

Ephemera guttulata^{6,8}, *simulans*^{6,8}, *varia*^{6,8}
Hexagenia bilineata^{6,8}, *limbata*^{6,8}, *rigida*^{6,8}
Litobrancha recurvata^{6,8}

HEPTAGENIIDAE

Epeorus fragilis^{6,8}, *pleuralis*^{6,8}, *punctatus*^{6,8}, *suffusus*^{3,6,8}, *vitreus*^{6,8}
Heptagenia diabasia^{6,8}, *manifesta* nomen dubium⁸, *marginalis*^{6,8}, *pulla*^{6,8}
Leucrocota aphrodite^{3,6,8}, *hebe*^{3,6,8}, *juno*^{3,6,8}, *minerva*^{3,6,8}, *umbratica*^{3,6,8}, *walshi*^{6,8}
Nixe inconspicua^{6,8}, *rusticalis*^{3,6,8}
*Rhithrogena amica*⁸, *anomala*^{3,8}, *brunneotincta*^{3,8}, *gaspeensis*^{3,4,5}, *impersonata*^{3,6,8}, *jejuna*^{6,8}
Stenacron candidum^{6,8}, *carolina*^{6,8}, *interpunctatum*^{6,8}
Stenonema femoratum^{6,8}, *ithaca*^{6,8}, *luteum*^{6,8}, *mediopunctatum*^{6,8}, *modestum*^{6,8}, *pulchellum*^{1,6,8},
terminatum^{6,8}, *vicarium*^{6,8}

ISONYCHIIDAE

Isonychia bicolor^{6,8}

LEPTOHYPHIDAE

Tricorythodes allectus^{6,8}, *minutus*^{6,8}, *stygiatus*^{3,8}

LEPTOPHLEBIIDAE

Choroterpes basalis^{6,8}
Habrophlebia vibrans^{6,8}
Habrophlebiodes americana^{6,8}
Leptophlebia cupida^{6,8}, *johnsoni*^{6,8}, *nebulosa*^{6,8}
Paraleptophlebia adoptiva^{3,6,8}, *debilis*^{6,8}, *guttata*^{3,6,8}, *moerens*^{3,6,8}, *mollis*^{6,8}, *ontario*^{6,8}, *praepedita*^{6,8},
strigula^{6,8}, *volitans*^{3,6,8}

METRETOPODIDAE

Metretopus borealis^{6,7,8}
Siphloplecton basale^{6,8}

NEOEPHEMERIDAE

Neoephemera bicolor^{3,6,8}

POLYMITARCYIDAE

Ephoron leukon^{6,8}

POTAMANTHIDAE

Anthopotamus distinctus^{6,8}

SIPHLONURIDAE

Parameletus midas^{5,6}

Siphlonisca aerodromia^{6,8}

Siphonurus alternatus^{6,7,8}, *barbaroides*^{3,6,8}, *barbarus*^{6,8}, *mirus*^{6,8}, *phyllis*^{5,6}, *quebecensis*^{3,6,8}, *rapidus*^{6,8},
securifer^{6,8}, *typicus*^{6,8}

SASKATCHEWAN

ACANTHAMETROPODIDAE

Analetris eximia^{6,8}

AMELETIDAE

Ameletus oregonensis^{6,8}

AMETROPODIDAE

*Ametropus albrighti*⁸, *neavei*^{6,8}

BAETIDAE

Acentrella insignificans^{1,6,8}, *turbida*^{1,6,8}

Acerpenna pygmaea^{1,6,8}

Apobaetis indepressus^{1,2,8}

Baetis brunneicolor^{1,6,8}, *flavistriga*^{1,6,8}, *hudsonicus*^{1,5,6}, *tricaudatus*^{6,8,9}

Callibaetis ferrugineus^{1,6,8}, *pallidus*^{6,8}, *skokianus*^{6,8}

*Camelobaetidius warreni*⁸

Centroptilum bifurcatum^{1,6,8}, *victoriae*^{1,5,6}

Dipheter hageni^{1,6,8}

Fallceon quillerti^{6,8}

Labiobaetis dardanus^{1,6,8}, *propinquus*^{1,6,8}

Plauditus armillatus^{1,6,8}, *dubius*^{1,6,8}, *punctiventris*^{1,6,8}, *virilis*^{1,6,8}

Procloeon pennulatum^{6,7,8}, *quaesitum*^{1,6,8}

BAETISCIDAE

Baetisca lacustris^{6,8}, *obesa*^{6,8}

CAENIDAE

Brachycercus prudens^{3,8}

Caenis amica^{6,8}, *latipennis*^{6,8}, *tardata*^{6,8}, *youngi*^{6,8}

EPHEMERELLIDAE

Drunella grandis^{6,8,9}

Ephemerella aurivillii^{6,8,9}, *inermis*^{6,8}

Eurylophella temporalis^{6,8}

*Timpanoga lita*⁸, *simplex*^{6,8}

EPHEMERIDAE

Ephemera simulans^{6,8}

Hexagenia limbata^{6,8}

HEPTAGENIIDAE

Acanthomola pubescens^{3,5,6}

Anepeorus rusticus^{3,8}

Cinygmula mimus^{6,8}

Epeorus longimanus^{6,8,9}

Heptagenia adaequata^{3,5,6}, *diabasia*^{6,8}, *elegantula*^{6,8}, *flavescens*^{6,8}, *pulla*^{6,8}, *solitaria*^{6,8}

Leucrocota hebe^{6,8}

Macdunnoa nipawinia^{3,4,5}

Nixe inconspicua^{6,8}, *lucidipennis*^{6,8}, *rusticalis*^{6,8}

Raptoheptagenia cruentata^{6,8}

Rhithrogena jejuna^{6,8}, *undulata*^{6,8}

Stenacron interpunctatum^{6,8}

Stenonema femoratum^{6,8}, *terminatum*^{6,8}, *vicarium*^{6,8}

ISONYCHIIDAE

Isonychia campestris^{6,8}

LEPTOHYPHIDAE

Tricorythodes minutus^{6,8}

LEPTOPHLEBIIDAE

Choroterpes albiannulata^{6,8}

Leptophlebia cupida^{6,8}, *nebulosa*^{6,8}

Paraleptophlebia adoptiva^{6,8}, *debilis*^{6,8}, *moerens*^{6,8}, *praepedita*^{6,8}

Traverella albertana^{6,8}

METRETOPODIDAE

Metretopus borealis^{6,7,8}

Siphloplecton interlineatum^{6,8}

OLIGONEURIIDAE

Lachlania saskatchewanensis^{3,8}

POLYMITARCYIDAE

Ephoron album^{6,8}

Tortopus primus^{6,8}

PSEUDIRONIDAE

Pseudiron centralis^{6,8}

SIPHONURIDAE

Siphonurus alternatus^{6,7,8}

YUKON TERRITORY

BAETIDAE

Acentrella insignificans^{6,8}

Baetis bicaudatus^{6,7,8,9}, *bundyae*^{6,7,9}, *tricaudatus*^{6,8,9}

Callibaetis ferrugineus^{6,8}
Labiobaetis propinquus^{6,8}
Procloeon ingens^{6,8}

CAENIDAE

Caenis youngi^{6,8}

EPHEMERELLIDAE

Drunella coloradensis^{6,8,9}, *doddsi*^{6,8,9}, *grandis*^{6,8,9}
Ephemerella mucronata^{6,7}

HEPTAGENIIDAE

Cinygmula mimus^{6,8}, *par*^{6,8,9}, *ramaleyi*^{6,8}, *uniformis*^{1,6,8}
Epeorus grandis^{6,8}, *longimanus*^{6,8,9}
Heptagenia pulla^{6,8}
Rhithrogena futilis^{6,8,9}, *undulata*^{6,8}

LEPTOPHLEBIIDAE

Leptophlebia nebulosa^{6,8}
Paraleptophlebia debilis^{6,8}, *moerens*^{6,8}

METRETOPODIDAE

Metretopus borealis^{6,7,8}

SIPHONURIDAE

Siphonurus alternatus^{6,7,8}, *occidentalis*^{6,8}, *phyllis*^{5,6}

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REFERENCES

- Alba-Tercedor, J. and J. Flannagan. 1995. Two new Canadian species of the genus *Tricorythodes* Ulmer, with additional studies on other North American species (Insecta, Ephemeroptera: Leptohiphidae). Canadian Journal of Zoology, 73: 1588–1598.
- Allen, R.K. 1977. A review of *Ephemerella* (Dannella) and the description of a new species (Ephemeroptera: Ephemerellidae). Pan-Pacific Entomologist, 53: 215–217.
- Allen, R.K. and G.F. Edmunds, Jr. 1961a. A revision of the genus *Ephemerella* (Ephemeroptera: Ephemerellidae). II. The subgenus *Caudatella*. Annals of the Entomological Society of America,

- 54: 603–612.
- Allen, R.K. and G.F. Edmunds, Jr. 1961b. A revision of the genus *Ephemerella* (Ephemeroptera: Ephemerellidae). III. The subgenus *Attenuatella*. Journal of the Kansas Entomological Society, 34: 161–173.
- Allen, R.K. and G.F. Edmunds, Jr. 1962a. A revision of the genus *Ephemerella* (Ephemeroptera: Ephemerellidae). IV. The subgenus *Dannella*. Journal of the Kansas Entomological Society, 35: 333–338.
- Allen, R.K. and G.F. Edmunds, Jr. 1962b. A revision of the genus *Ephemerella* (Ephemeroptera: Ephemerellidae). V. The subgenus *Drunella* in North America. Miscellaneous Publications of the Entomological Society of America, 3: 147–179.
- Allen, R.K. and G.F. Edmunds, Jr. 1963a. A revision of the genus *Ephemerella* (Ephemeroptera: Ephemerellidae). VI. The subgenus *Serratella* in North America. Annals of the Entomological Society of America, 56: 583–600.
- Allen, R.K. and G.F. Edmunds, Jr. 1963b. A revision of the genus *Ephemerella* (Ephemeroptera: Ephemerellidae). VII. The subgenus *Eurylophella*. The Canadian Entomologist, 95: 597–623.
- Allen, R.K. and G.F. Edmunds, Jr. 1965. A revision of the genus *Ephemerella* (Ephemeroptera: Ephemerellidae). VIII. The subgenus *Ephemerella* in North America. Miscellaneous Publications of the Entomological Society of America, 4: 243–282.
- Allen, R.K. and G.F. Edmunds, Jr. 1976. A revision of the genus *Ametropus* in North America (Ephemeroptera: Ametropodidae). Journal of the Kansas Entomological Society, 49: 625–635.
- Bae, Y.J. and W.P. McCafferty. 1991. Phylogenetic systematics of the Potamanthidae (Ephemeroptera). Transactions of the American Entomological Society, 117: 1–143.
- Banks, N. 1900. New genera and species of Nearctic neuropteroid insects. Transactions of the American Entomological Society, 26: 239–259.
- Banks, N. 1910. Neuropteroid insects (except Odonata). pp. 127–128 In A. Gibson (ed). The entomological record, 1909. Annual Report of the Entomological Society of Ontario, 40: 110–128.
- Banks, N. 1912. Neuropteroid insects (except Odonata). pp. 109–111 In A. Gibson (ed). The entomological record, 1911. Annual Report of the Entomological Society of Ontario, 42: 89–112.
- Banks, N. 1914. New neuropteroid insects, native and exotic. Proceedings of the Academy of Natural Science of Philadelphia, 66: 608–632.
- Barton, D.R. 1980. Observations on the life histories and biology of Ephemeroptera and Plecoptera in northeastern Alberta. Aquatic Insects, 2: 97–111.
- Barton, D.R. and H.B.N. Hynes. 1978. Wave-zone macrobenthos of the exposed Canadian shores of the St. Lawrence Great Lakes. Journal of Great Lakes Research, 4: 27–45.
- Bednarik, A.F. and W.P. McCafferty. 1979. Biosystematic revision of the genus *Stenonema* (Ephemeroptera: Heptageniidae). Canadian Bulletin of Fisheries and Aquatic Sciences, 210: vi + 73 pp.
- Berner, L. 1959. Newfoundland mayflies (Ephemeroptera). Opuscula Entomologica, 24: 212–214.
- Berner, L. 1978. A review of the mayfly family Metretopodidae. Transactions of the American Entomological Society, 104: 91–137.
- Boerger, H. and H.F. Clifford. 1975. Emergence of mayflies (Ephemeroptera) from a northern brown-water stream of Alberta, Canada. Verhandlungen der Internationalen Vereinigung Limnologie, 19: 3022–3028.
- Burks, B.D. 1953. The mayflies, or Ephemeroptera, of Illinois. Bulletin of the Illinois Natural History Survey, 26: ii + 216 pp.
- Check, G.R. 1982. A revision of the North American species of *Callibaetis* (Ephemeroptera: Baetidae). Unpublished Ph.D. thesis. University of Minnesota, St. Paul. 157 pp.

- Clemens, W.A. 1913. New species and new life histories of Ephemeridae or mayflies. *The Canadian Entomologist*, 45: 246–262, 329–341.
- Clemens, W.A. 1915. Rearing experiments and ecology of Georgian Bay Ephemeridae. *Contributions to Canadian Biology, Sessional Papers*, 39b: 113–128.
- Clemens, W.A. and A.K. Leonard. 1924. On two species of mayflies of the genus *Heptagenia*. *The Canadian Entomologist*, 56: 17–18.
- Clemens, W.A., D.S. Rawson and J.L. McHugh. 1939. A biological survey on Okanagan Lake, British Columbia. *Bulletin of the Fisheries Research Board of Canada*, 56: 1–70.
- Clifford, H.F. 1969. Limnological features of a northern brown-water stream, with special reference to the life histories of the aquatic insects. *American Midland Naturalist*, 82: 578–597.
- Clifford, H.F. and H. Boerger. 1974. Fecundity of mayflies (Ephemeroptera), with special reference to mayflies of a brown-water stream of Alberta, Canada. *The Canadian Entomologist*, 106: 1111–1119.
- Clifford, H.F., M.R. Robertson and K.A. Zelt. 1973. Life cycle patterns of mayflies (Ephemeroptera) from some streams of Alberta, Canada. pp. 122–131 *In* W.L. Peters and J.G. Peters (eds). *Proceedings of the first international conference on Ephemeroptera*. Brill, Leiden. 312 pp.
- Cobb, D.G. and J.F. Flannagan. 1980. The distribution of Ephemeroptera in northern Canada. pp. 155–166 *In* J.F. Flannagan and K.E. Marshall (eds). *Advances in Ephemeroptera biology*. Plenum, New York. 552 pp.
- Cobb, D.G., J.F. Flannagan, P.M.L. Flannagan and R.D. Wickstrom. 1995. Collections of Ephemeroptera from Kluane National Park, Yukon Territory, and Nahanni National Park, Northwest Territories, Canada. pp. 177–184 *In* L.D. Corkum and J.J.H. Ciborowski (eds). *Current directions in research on Ephemeroptera*. Canadian Scholars' Press, Toronto. 478 pp.
- Cobb, D.G., T.D. Galloway and J.F. Flannagan. 1991. Life history adaptations of mayflies to an unstable reach of Wilson Creek, Manitoba, Canada. pp. 465–482 *In* J. Alba-Tercedor and A. Sanchez-Ortega (eds). *Overview and strategies of Ephemeroptera and Plecoptera*. Sandhill Crane Press, Gainesville. 558 pp.
- Daggy, R.H. 1945. New species and previously undescribed naiads of some Minnesota mayflies (Ephemeroptera). *Annals of the Entomological Society of America*, 38: 373–396.
- Dance, K.W. 1979. Stream insects of western Newfoundland. *Osprey*, 10: 64–75.
- Dosdall, L.M. and D.M. Lehmkuhl. 1989a. The impact of methoxychlor treatment of the Saskatchewan River system on artificial substrate populations of aquatic insects. *Environmental Pollution*, 60: 209–222.
- Dosdall, L.M. and D.M. Lehmkuhl. 1989b. Drift of aquatic insects following methoxychlor treatment of the Saskatchewan River system. *The Canadian Entomologist*, 121: 1077–1096.
- Dulude, Y. 1992. Les éphémères du pêcheur Québécois. *Les Éditions de l'Homme*, Montréal. 402 pp.
- Eaton, A.E. 1871. A monograph on the Ephemeridae. *Transactions of the Entomological Society of London*. 164 pp.
- Eaton, A.E. 1883–88. A revisional monograph of recent Ephemeridae or mayflies. *Transactions of the Linnean Society of London, Zoology Series*, 3: 1–352.
- Edmunds, G.F., Jr. 1957. *Metretopus borealis* (Eaton) in Canada (Ephemeroptera; Ametropodidae). *Canadian Journal of Zoology*, 35: 161–162.
- Edmunds, G.F., Jr., S.L. Jensen and L. Berner. 1976. *The mayflies of North and Central America*. University of Minnesota Press, Minneapolis. 330 pp.
- Eidt, D.C. 1975. The effect of Fenitrothion from large-scale forest spraying on benthos in New Brunswick headwaters streams. *The Canadian Entomologist*, 107: 743–760.

- Fiancé, S.B. 1978. A new locality for *Siphonisca aerodromia* (Ephemeroptera: Siphonuridae). Entomological News, 89: 208.
- Filmer, N.J. 1964. A contribution to the Ephemeroptera of British Columbia. Unpublished Masters thesis, University of British Columbia, Vancouver. 224 pp.
- Flannagan, J.F. and D.G. Cobb. 1995. Emergence of Ephemeroptera from some lakes and streams in the experimental lakes area (ELA), northwestern Ontario, Canada. pp. 185–194 In L.D. Corkum and J.J.H. Ciborowski (eds). Current directions in research on Ephemeroptera. Canadian Scholars' Press, Toronto. 478 pp.
- Flannagan, J.F., D.G. Cobb and M.K. Friesen. 1990. The relationships between some physical factors and mayflies emerging from South Duck River and Cowan Creek, Manitoba. pp. 233–242 In I.C. Campbell (ed). Mayflies and stoneflies: Life histories and biology. Kluwer, Dordrecht. 366 pp.
- Flannagan, P.M. and J.F. Flannagan. 1982. Present distribution and the post-glacial origin of the Ephemeroptera, Plecoptera and Trichoptera of Manitoba. Manitoba Department of Natural Resources Fisheries Technical Report Number, 82-1: ii + 79 pp.
- Friesen, M.K., J.F. Flannagan and P.M. Laufersweiler. 1980. Diel emergence patterns of some mayflies (Ephemeroptera) of the Roseau River (Manitoba, Canada). pp. 287–296 In J.F. Flannagan and K.E. Marshall (eds). Advances in Ephemeroptera biology. Plenum, New York. 552 pp.
- Flannagan, J.F. and G.H. Lawler. 1972. Emergence of caddisflies (Trichoptera) and mayflies (Ephemeroptera) from Heming Lake, Manitoba. The Canadian Entomologist, 104: 173–183.
- Funk, D.F. and B.W. Sweeney. 1994. The larvae of eastern North American *Eurylophella* Tiensuu (Ephemeroptera: Ephemerellidae). Transactions of the American Entomological Society, 120: 209–286.
- Gibbs, K.E. 1979. Ovoviviparity and nymphal seasonal movements of *Callibaetis* spp. (Ephemeroptera: Baetidae) in a pond in southwestern Quebec. The Canadian Entomologist, 111: 927–931.
- Giberson, D.J. and R.J. Mackay. 1991. Life history and distribution of mayflies (Ephemeroptera) in some acid streams in south central Ontario, Canada. Canadian Journal of Zoology, 69: 899–910.
- Griffiths, R.W. 1996. A biological measure of water quality for creeks, streams and rivers. Ontario Ministry of Environment and Energy BioMAP Report SWR-4: ii + 30 pp.
- Gyselman, E.C. 1980. The mechanisms that maintain population stability of selected species of Ephemeroptera in a temperate stream. pp. 309–319 In J.F. Flannagan and K.E. Marshall (eds). Advances in Ephemeroptera biology. Plenum, New York.
- Hagen, H. 1861. Synopsis of the Neuroptera of North America, with a list of the South American species. Smithsonian Institution Miscellaneous Collection. xx + 347 pp.
- Hagen, H. 1863. pp. 167–182 In M.A. Walsh. Observations on certain N.A. Neuroptera, by H. Hagen, M.D., of Koenigsberg, Prussia; translated from the original French ms., and published by permission of the author, with notes and descriptions of about twenty new N.A. species of Pseudoneuroptera. Proceedings of the Entomological Society of Philadelphia, 2: 182–272.
- Hamilton, H.R. and H.F. Clifford. 1983. The seasonal food habits of mayfly (Ephemeroptera) nymphs from three Alberta, Canada, streams, with special reference to absolute volume and size of particles ingested. Archiv für Hydrobiologie, Supplement, 65: 197–234.
- Harper, F. 1970. A new species of *Ameletus* (Ephemeroptera, Siphonuridae) from southern Ontario. Canadian Journal of Zoology, 48: 603–604.
- Harper, F. and P.P. Harper. 1976. Inventaire et phénologie des Ephéméroptères du lac Saint-Louis, Québec. Annales de la Société Entomologique du Québec, 21: 136–143.

- Harper, F. and P.P. Harper. 1981. Northern Canadian mayflies (Insecta; Ephemeroptera), records and descriptions. Canadian Journal of Zoology, 59: 1784–1789.
- Harper, F. and P.P. Harper. 1986. An annotated key to the adult males of the northwestern Nearctic species of *Paraleptophlebia* Lestage (Ephemeroptera: Leptophlebiidae) with the description of a new species. Canadian Journal of Zoology, 64: 1460–1468.
- Harper, P.P. 1989. Zoogeographical relationships of aquatic insects (Ephemeroptera, Plecoptera, and Trichoptera) from the eastern James Bay Drainage. The Canadian Field-Naturalist, 103: 535–546.
- Harper, P.P. and F. Harper. 1982. Mayfly communities in a Laurentian watershed (Insecta; Ephemeroptera). Canadian Journal of Zoology, 60: 2828–2840.
- Harper, P.P. and F. Harper. 1997. Mayflies (Ephemeroptera) of the Yukon. pp. 151–167 In H.V Danks and J.A. Downes (eds). Insects of the Yukon. Biological Survey of Canada (Terrestrial Arthropods), Ottawa. 1034 pp.
- Harper, P.P., J.-G. Pilon and J.-M. Perron. 1975. Insectes aquatiques du nord du Québec (Éphéméroptères, Odonates, Plécoptères, et Trichoptères). Annales de la Société Entomologique de Québec, 20: 33–43.
- Hartland-Rowe, R. 1964. Factors influencing the life histories of some stream insects of Alberta. Verhandlungen der Internationales Vereinigung für Limnologie, 15: 917–925.
- Hutchinson, R. 1989. Première mention de *Siphonisca aerodromia* Needham (Ephemeroptera: Siphonuridae) au Québec et répartition en Amérique de Nord. Faberies, 14: 25–27.
- Ide, F.P. 1930. Contributions to the biology of Ontario mayflies with descriptions of new species. The Canadian Entomologist, 62: 204–213, 218–231.
- Ide, F.P. 1935a. Life history notes on *Ephoron*, *Potamanthus*, *Leptophlebia* and *Blasturus* with descriptions (Ephemeroptera). The Canadian Entomologist, 67: 113–125.
- Ide, F.P. 1935b. The effect of temperature on the distribution of the mayfly fauna of a stream. University of Toronto Studies, Biological Series, 39: 1–102.
- Ide, F.P. 1937. Descriptions of eastern North American species of baetinae mayflies with particular reference to the nymphal stages. The Canadian Entomologist, 69: 219–243.
- Ide, F.P. 1941. Mayflies of two tropical genera, *Lachlania* and *Campsurus*, from Canada with descriptions. The Canadian Entomologist, 73: 153–156.
- Ide, F.P. 1954. The nymph of *Rhithrogena impersonata* (Ephemerida) and a new closely related species from the same locality in southern Ontario. The Canadian Entomologist, 86: 348–356.
- Kondratieff, B.C. and J.R. Voshell, Jr. 1981. A new species of *Siphonurus* from Nova Scotia, Canada. Annals of the Entomological Society of America, 74: 545–547.
- Kondratieff, B.C. and J.R. Voshell, Jr. 1984. The North and Central American species of *Isonychia* (Ephemeroptera: Oligoneuriidae). Transactions of the American Entomological Society, 110: 129–244.
- Koss, R.W. 1970. A list of the mayflies (Ephemeroptera) in the Michigan State University entomology museum. The Michigan Entomologist, 3: 98–101.
- Larson, D.J. and M.H. Colbo. 1983. The aquatic insects: biogeographic considerations. pp. 593–677 In G.R. South (ed) Biogeography and ecology of the island of Newfoundland. Junk Publ., The Hague. 723 pp.
- Lauzon, M. and P.P. Harper. 1988. Seasonal dynamics of a mayfly (Insecta: Ephemeroptera) community in a Laurentian stream. Holarctic Ecology, 11: 220–234.
- Lehmkuhl, D.M. 1972. *Baetisca* (Ephemeroptera: Baetiscidae) from the western interior of Canada with notes on the life cycle. Canadian Journal of Zoology, 50: 1015–1017.
- Lehmkuhl, D.M. 1973. A new species of *Baetis* (Ephemeroptera) from ponds in the Canadian Arctic, with biological notes. The Canadian Entomologist, 105: 343–346.

- Lehmkuhl, D.M. 1976a. Mayflies. Blue Jay, 34: 70–81.
- Lehmkuhl, D.M. 1976b. Additions to the taxonomy, zoogeography, and biology of *Analetris eximia* (Acanthametropodinae: Siphonuridae: Ephemeroptera). The Canadian Entomologist, 108: 199–207.
- Lehmkuhl, D.M. 1979. A new genus and species of Heptageniidae (Ephemeroptera) from western Canada. The Canadian Entomologist, 111: 859–862.
- Lewis, P.A. 1974. Taxonomy and ecology of *Stenonema* mayflies (Heptageniidae: Ephemeroptera). Environmental Protection Agency (U.S.A.) Environmental Monitoring Series Report EPA-670/4-74-006: 1–81.
- Lowen, R.G. and J.F. Flannagan. 1990. The nymph and male of *Centroptilum infrequens* McD (Baetidae). pp. 311–321 In I.C. Campbell (ed). Mayflies and stoneflies: Life Histories and Biology. Kluwer, Dordrecht. 366 pp.
- Lowen, R.G. and J.F. Flannagan. 1991. Four Manitoba species of *Centroptilum* Eaton (Ephemeroptera: Baetidae) with remarks on the genus. pp. 189–205 In J. Alba-Tercedor and A. Sanchez-Ortega (eds). Overview and strategies of Ephemeroptera and Plecoptera. Sandhill Crane Press, Gainesville. 588 pp.
- Lowen, R.G. and J.F. Flannagan. 1992. Nymphs and imagoes of four North American species of *Procloeon* Bengtsson with description of a new species (Ephemeroptera, Baetidae). The Canadian Entomologist, 124: 97–108.
- Magnin, E. and P.P. Harper. 1970. La nourriture des esturgeons *Acipenser fulvescens* de la Baie James. Le Naturaliste Canadien, 97: 73–85.
- Mayo, V.K. 1952. New western Ephemeroptera III. Pan-Pacific Entomologist, 23: 93–103.
- McCafferty, W.P. and T.H. Klubertanz. 1994. *Camelobaetidius* (Ephemeroptera: Baetidae) in Indiana and Iowa: a new species and range extension. Proceedings of the Entomological Society of Washington, 96: 37–43.
- McCafferty, W.P., M.J. Wagle and R.D. Waltz. 1994. Systematics and biology of *Acentrella turbida* (McDunnough) (Ephemeroptera: Baetidae). Pan-Pacific Entomologist, 70: 301–308.
- McDunnough, J. 1921. Two new Canadian may-flies (Ephemeridae). The Canadian Entomologist, 53: 117–120.
- McDunnough, J. 1923. New Canadian Ephemeridae with notes. The Canadian Entomologist, 55: 39–50.
- McDunnough, J. 1924a. New Canadian Ephemeridae with notes, II. The Canadian Entomologist, 56: 90–98, 113–122, 128–133.
- McDunnough, J. 1924b. New North American Ephemeridae. The Canadian Entomologist, 56: 221–226.
- McDunnough, J. 1924c. New Ephemeridae from New England. Occasional Papers of the Boston Society of Natural History, 5: 73–76.
- McDunnough, J. 1925a. Ephemeroptera. pp. 104–106 In N. Criddle (ed). The entomological record, 1924. Annual Report of the Entomological Society of Ontario, 55: 89–106.
- McDunnough, J. 1925b. The Ephemeroptera of Covey Hill, Que. Transactions of the Royal Society of Canada, 19: 207–225.
- McDunnough, J. 1925c. New *Ephemerella* species (Ephemeroptera). The Canadian Entomologist, 57: 41–43.
- McDunnough, J. 1925d. New Canadian Ephemeridae with notes, III. The Canadian Entomologist, 57: 168–176, 185–192.
- McDunnough, J. 1926a. Notes on North American Ephemeroptera with descriptions of new species. The Canadian Entomologist, 58: 184–196.

- McDunnough, J. 1926b. New Canadian Ephemeridae with notes IV. The Canadian Entomologist, 58: 296–303.
- McDunnough, J. 1927a. Notes on the species of the genus *Hexagenia* with description of a new species. The Canadian Entomologist, 59: 116–120.
- McDunnough, J. 1927b. A new *Heptagenia* from the Yellowstone region (Ephemeroptera). The Canadian Entomologist, 59: 261.
- McDunnough, J. 1928a. The Ephemeroptera of Jasper Park, Alta. The Canadian Entomologist, 60: 8–10.
- McDunnough, J. 1928b. Ephemerid notes with description of a new species. The Canadian Entomologist, 60: 238–240.
- McDunnough, J. 1929. Notes on North American Ephemeroptera with descriptions of new species, II. The Canadian Entomologist, 61: 169–180.
- McDunnough, J. 1930. The Ephemeroptera of the north shore of the Gulf of St. Lawrence. The Canadian Entomologist, 62: 54–62.
- McDunnough, J. 1931a. New species of North American Ephemeroptera. The Canadian Entomologist, 63: 82–93.
- McDunnough, J. 1931b. The *bicolor* group of the genus *Ephemerella* with particular reference to the nymphal stage (Ephemeroptera). The Canadian Entomologist, 63: 30–42, 61–68.
- McDunnough, J. 1931c. The eastern North American species of the genus *Ephemerella* and their nymphs (Ephemeroptera). The Canadian Entomologist, 63: 187–197, 201–216.
- McDunnough, J. 1931d. The genus *Isonychia* (Ephemeroptera). The Canadian Entomologist, 63: 157–163.
- McDunnough, J. 1931e. North American Caeninae with notes (Ephemeroptera). The Canadian Entomologist, 63: 254–268.
- McDunnough, J. 1932a. Further notes on the Ephemeroptera of the north shore of the Gulf of St. Lawrence. The Canadian Entomologist, 64: 78–81.
- McDunnough, J. 1932b. New species of North American Ephemeroptera II. The Canadian Entomologist, 64: 209–215.
- McDunnough, J. 1933a. Notes on the heptagenine species described by Clemens from the Georgian Bay region, Ont. (Ephemerop.). The Canadian Entomologist, 65: 16–24, 33–43.
- McDunnough, J. 1933b. New species of North American Ephemeroptera III. The Canadian Entomologist, 65: 155–158.
- McDunnough, J. 1933c. New Ephemeroptera from the Gaspé Peninsula. The Canadian Entomologist, 65: 278–281.
- McDunnough, J. 1934. New species of North American Ephemeroptera IV. The Canadian Entomologist, 66: 154–164, 181–188.
- McDunnough, J. 1935. Notes on western species of Ephemeroptera. The Canadian Entomologist, 67: 95–104.
- McDunnough, J. 1936a. A new Arctic baetid (Ephemeroptera). The Canadian Entomologist, 68: 33–34.
- McDunnough, J. 1936b. Further notes on the genus *Ameletus* with descriptions of new species. (Ephem.). The Canadian Entomologist, 68: 207–211.
- McDunnough, J. 1938. New species of North American Ephemeroptera with critical notes. The Canadian Entomologist, 70: 23–34.
- McDunnough, J. 1939. New British Columbian Ephemeroptera. The Canadian Entomologist, 71: 49–54.
- McDunnough, J. 1943. A new *Cinygmula* from British Columbia (Ephemeroptera). The Canadian Entomologist, 75: 3.

- Moore, I.A. 1977. Species descriptions of some Plecoptera, Ephemeroptera, Trichoptera and Diptera from three areas of the Northwest Territories. Canadian Environmental Protection Service Manuscript Report NW-77-9: 1-57.
- Moriwaka, D.K. and W.P. McCafferty. 1979. The *Baetis* larvae of North America (Ephemeroptera: Baetidae). Transactions of the American Entomological Society, 105: 139-221.
- Neave, F. 1932. The mayflies of Lake Winnipeg. Canadian Field-Naturalist, 36: 54-55.
- Neave, F. 1929. Reports of the Jasper Park Lakes Investigation, 1925-26. IV. Aquatic insects. Contributions to Canadian Biology and Fisheries, 4: 187-195.
- Neave, F. 1934. A contribution to the aquatic insect fauna of Lake Winnipeg. Internationale Revue der gesamten Hydrobiologie, 31: 157-170.
- Oliver, D.R. 1960. The macroscopic bottom fauna of Lac la Ronge, Saskatchewan. Journal of the Fisheries Research Board of Canada, 17: 607-624.
- Parker, D.W. 1992. Emergence phenologies and patterns of aquatic insects inhabiting a prairie pond. Unpublished Ph.D. thesis, University Saskatchewan, Saskatoon. 173 pp.
- Pescador, M.L. 1985. Systematics of the Nearctic genus *Pseudiron* (Ephemeroptera: Heptageniidae: Pseudironinae). The Florida Entomologist, 68: 432-444.
- Pescador, M.L. and L. Berner. 1981. The mayfly family Baetiscidae (Ephemeroptera). Part II biosystematics of the genus *Baetisca*. Transactions of the American Entomological Society, 107: 163-228.
- Petersen, R.H. 1989. Species distribution of mayfly (Ephemeroptera) nymphs in three stream systems in New Brunswick and Nova Scotia with notes on identification. Canadian Technical Report of Fisheries and Aquatic Sciences Number 1685: iii + 1-14.
- Petersen, R.H., D.J. Gordon and D.J. Johnston. 1985. Distribution of mayfly nymphs (Insecta: Ephemeroptera) in some streams of eastern Canada as related to stream pH. The Canadian Field-Naturalist, 99: 490-493.
- Petersen, R.H. and D.J. Martin-Robichaud. 1986. Aquatic insect histories and Atlantic Salmon fry diets in the St. Croix River, New Brunswick, Canada. Canadian Technical Report of Fisheries and Aquatic Sciences Number 1485: iii + 1-27.
- Petersen, R.H., L. Van Eeckhaute and S.B. Eddy. 1987. Benthic invertebrates of the Westfield River (Nova Scotia, Canada). Canadian Technical Report of Fisheries and Aquatic Sciences Number 1561: iii + 1-12.
- Provancher, L. 1876. Petite faune entomologique du Canada. Névroptères. Fam. III. Ephémérides. Ephemeridae. Le Naturaliste Canadien, 8: 264-268.
- Provancher, L. 1878. Additions et corrections aux Névroptères de la Province de Québec. Le Naturaliste Canadien, 10: 124-147.
- Provonsha, A.V. 1990. A revision of the genus *Caenis* in North America (Ephemeroptera: Caenidae). Transactions of the American Entomological Society, 116: 801-884.
- Rawson, D.S. 1930. The bottom fauna of Lake Simcoe and its role in the ecology of the lake. Publication of the Ontario Fisheries Research Laboratory, 40: 1-183.
- Say, T. 1824. From Narrative of an expedition to the source of St. Peter's River, etc., under the command of Stephen H. Long, Major U. S. T. E., Volume 2, Philadelphia: pp. 268-378.
- Say, T. 1839. Descriptions of new North American neuropterous insects and observations on some already described. Journal of the Academy of Natural Sciences of Philadelphia, 8: 9-46.
- Scudder, G.G.E. 1975. An annotated checklist of the Ephemeroptera (Insecta) of British Columbia. Syesis, 8: 311-315.
- Spence, J.A. and H.B.N. Hynes. 1971. Differences in benthos upstream and downstream of an impoundment. Journal of the Fisheries Research Board Canada, 28: 35-43.

- Spieth, H.T. 1938. Taxonomic studies on Ephemeroidea, I: Description of new North American species. American Museum Novitates, 1002: 1–11.
- Spieth, H.T. 1941. Taxonomic studies on the Ephemeroptera. II. The genus *Hexagenia*. American Midland Naturalist, 26: 233–280.
- Sprules, W.M. 1947. An ecological investigation of stream insects in Algonquin Park, Ontario. University of Toronto Studies Biological Series, 69: v + 81pp
- Thew, T.B. 1959. Reexamination of some Nearctic species of the genus *Callibaetis* Eaton, with the description of a new species (Ephemeroptera; Baetidae). Transactions of the American Entomological Society, 84: 261–272.
- Traver, J.R. 1935a. Part II, Systematic. pp. 237–739 In J.G. Needham, J. R. Traver and Y.-C. Hsu (eds). The biology of mayflies. Comstock, Ithaca, New York. 759 pp.
- Traver, J.R. 1935b. Two new genera of North American Heptageniidae (Ephemeroidea). The Canadian Entomologist, 67: 31–38.
- Vincent, S.-J. 1985. Pêche à la Mouche. Les Édition de L'Homme, Montréal. 232 pp.
- Walker, F. 1853. Catalogue of the specimens of neuropterous insects in the collection of the British Museum, Part III: 477–585.
- Walley, G.S. 1927. Ephemeroptera. pp. 59–61 In N. Criddle (ed) The entomological record, 1926. Annual Report of the Entomological Society of Ontario, 57: 47–62.
- Walley, G.S. 1930. Review of *Ephemerella* nymphs of western North America (Ephemeroptera). The Canadian Entomologist, 62: 12–20.
- Whiting, E.R. 1992. New records of mayflies (Ephemeroptera) from Nova Scotia and New Brunswick, Canada. Entomological News, 103: 185–192.
- Whiting, E.R. and D.M. Lehmkuhl. 1987a. *Raptoheptagenia cruentata*, gen. nov. (Ephemeroptera: Heptageniidae), new association of the larva previously thought to be *Anepeorus* with the adult of *Heptagenia cruentata* Walsh. The Canadian Entomologist, 119: 405–407.
- Whiting, E.R. and D.M. Lehmkuhl. 1987b. *Acanthomola pubescens*, a new genus and species of Heptageniidae (Ephemeroptera) from western Canada. The Canadian Entomologist, 119: 409–417.
- Whiting, E.R. and J.W. Sheard. 1990. Patterns in the distribution of heptageniid species in Saskatchewan, Canada. Freshwater Biology, 24: 143–157.
- Wiens, A.P., D.M. Rosenberg and N.B. Snow. 1975. Species list of aquatic plants and animals collected from the Mackenzie and Porcupine River watersheds from 1971–1973. Canadian Fisheries and Marine Service Technical Report, 557: 1–39.
- Wigle, M.J. and H.V. Thommasen. 1990. Ephemeroptera of the Bella Coola and Owikeno Lake watersheds, British Columbia central coast. Journal of the Entomological Society of British Columbia, 87: 1–9.
- Williams, D.D. and H.B.N. Hynes. 1976. The ecology of temporary streams. I. The faunas of two Canadian streams. Internationale Revue der gesamten Hydrobiologie, 61: 761–787.
- Zloty, J. 1996. A revision of the Nearctic *Ameletus* mayflies based on adult males, with descriptions of seven new species (Ephemeroptera: Ameletidae). The Canadian Entomologist, 128: 293–346.

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